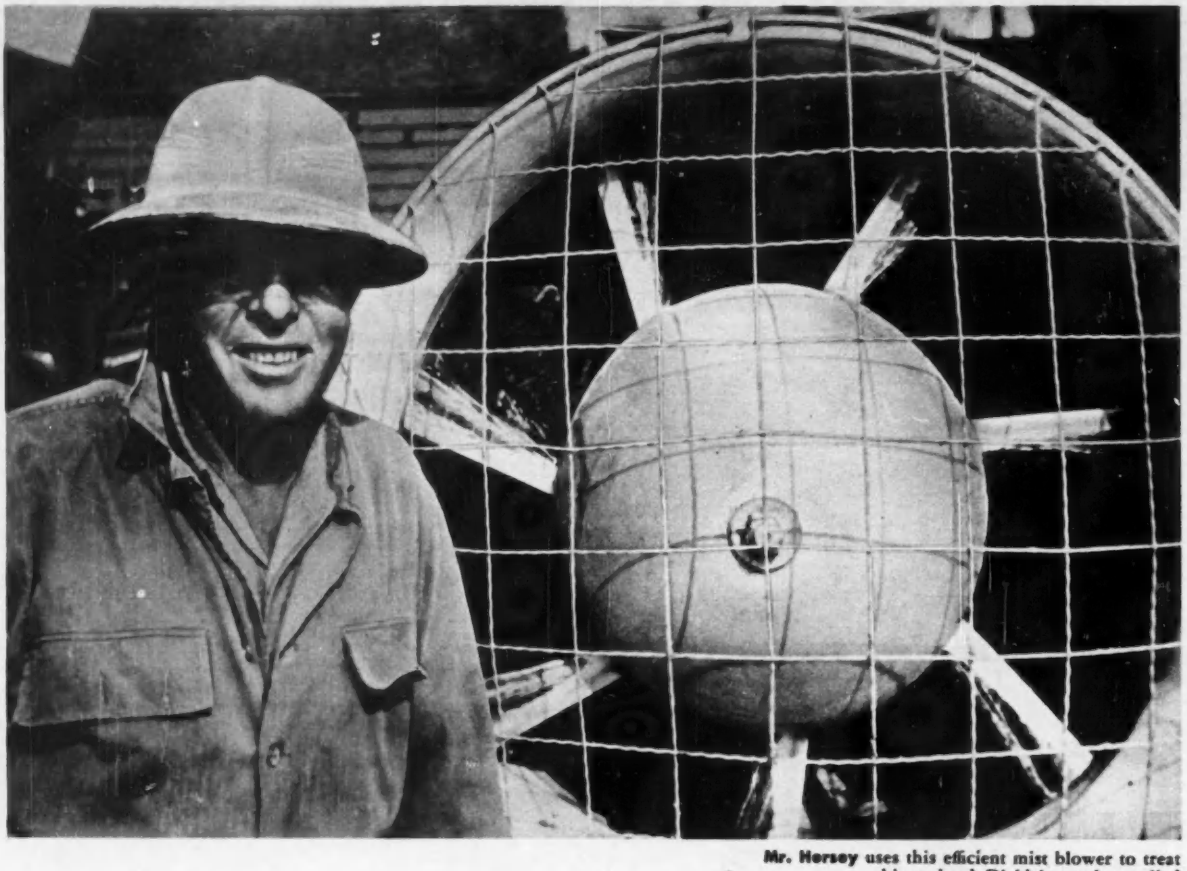
American Fruit Grower

JANUARY · 1954



Mr. Hersey uses this efficient mist blower to treat his orchard. Dieldrin can be applied by any conventional equipment.

"dieldrin *gives perfect control of plum curculio*" says Burnett Hersey

HERSEY ORCHARDS, CASNOVIA, MICH.

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Sprayed on trees at petal-fall, dieldrin remains effective for long periods. Days later when plum curculio activity starts, control is still effective. Applications after the first cover spray are not necessary and not recommended.

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Dieldrin is highly concentrated. Just ½ pound of 50% wettable powder (4 oz. of actual dieldrin) will make 100 gallons of spray—dieldrin is decidedly economical.

EASY TO APPLY

Dieldrin can be applied with conventional spray equipment. And dieldrin formulations will not clog spray nozzles.

Get a quality crop this season by controlling plum curculio and catfacing insects. Get dieldrin! See your insecticide dealer, or write for further information.

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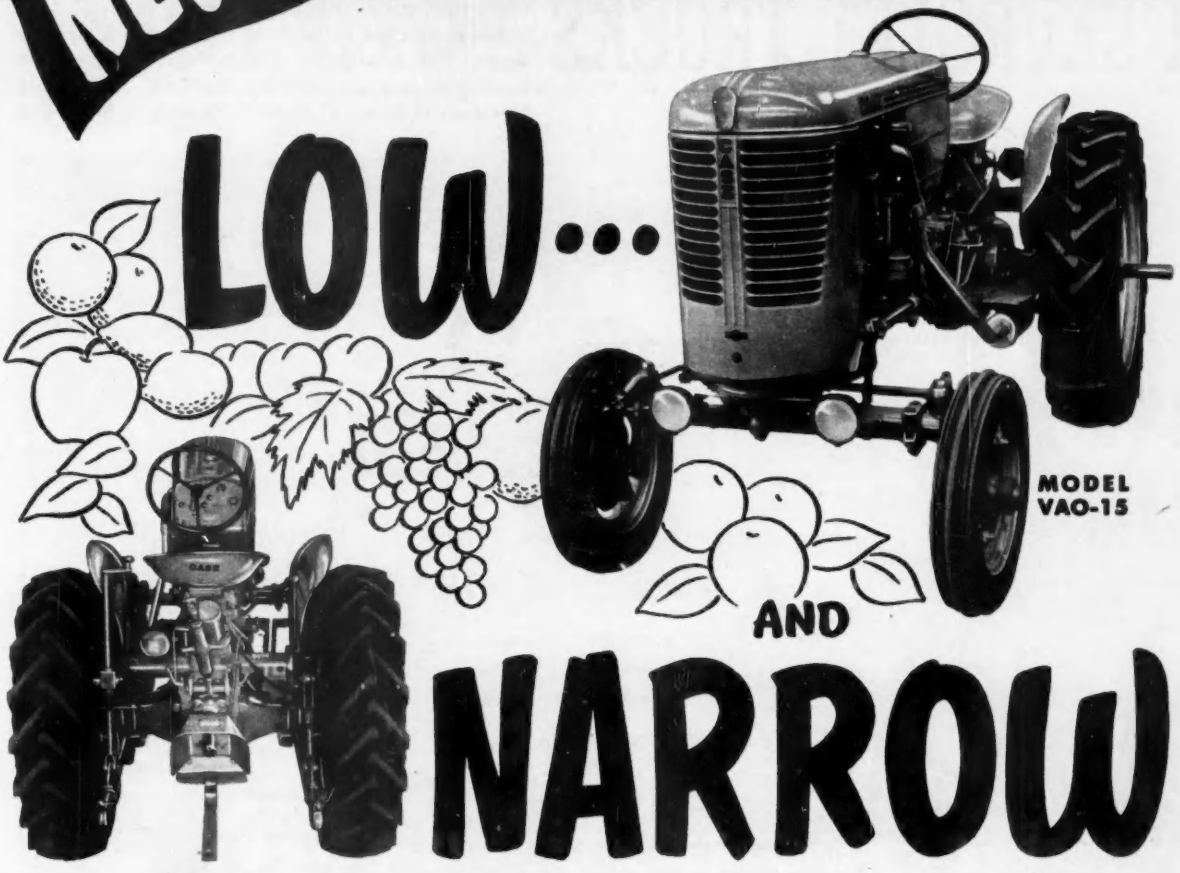

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- ☐ Eagle Hitch Implements
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See the trucks behind the biggest truck news in years. The new 1954 Chevrolet trucks are now on display at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

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Controls mites and aphids and many other insect pests on fruits and vegetables.

Much more toxic to insects than to mammals. "One of the safest insecticides to handle," reports USDA. Necessary precautions for safe handling similar to those for DDT.

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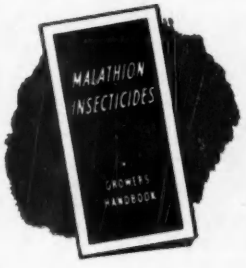
A product of American Cyanamid agricultural research, malathion can help you farm more profitably, more easily.



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GROWER'S HANDBOOK

MALATHION insecticides are available from well known manufacturers. Consult your local agricultural authorities for suggestions on dosages and application procedures.

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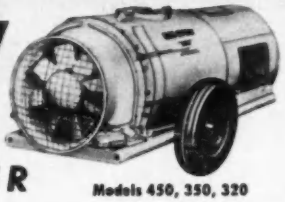

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JANUARY 1954
VOL. 74 No. 1

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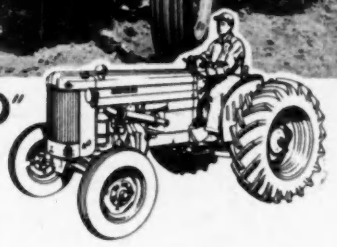
There's a limit to what pictures and words can tell you about the performance of a new John Deere "40" Tractor. *You've got to get behind the wheel and drive.* You'll quickly see how the new "40" Utility handles two 14-inch plow bottoms or a 6-foot double-action disk. On the seat of the powerful, easily-maneuvered "40" Crawler you'll appreciate immediately why so many growers like this sure-footed tractor which handles three bottoms easily in most soils. Ask your dealer for a free demonstration; he'll be happy to accommodate you.



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Built Long and Low!

The new "40" Utility, shown above, is designed for orchard and grove work, haying, and for use in vineyards and hop beds. It is a low-clearance tractor—8 inches lower than the John Deere "40" Standard model. It has an extra-long wheel base, which, together with its low center of gravity, makes it unusually stable even when heavy front- or rear-mounted tools are attached. Standard 3-point hitch, famous Touch-o-matic hydraulic control, and the exclusive John Deere load-and-depth control are built-in features.

If you have conditions that call for a track-type tractor, you need the economical but powerful "40" Crawler. With its new, longer trackage it provides greater stability than previous crawler models, greater ground-gripping traction, and better flotation in soft going.

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4— and 5— Roller Tracks

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CHLORO-IPC

Columbia-Southern,® one of the world's leading producers of chlorine, alkalies, and related chemicals, has pioneered in research and development of the promising new herbicide Isopropyl N (3-Chlorophenyl) Carbamate . . . known popularly as Chloro-IPC.

Originally, the attention of growers was focused on Chloro-IPC's application in cotton because this was the crop on which experiments were principally conducted. Imposing quantities of data, gathered from a widespread field-testing program, have disclosed spectacular results in weed control and dramatic reductions in cost of hand-weeding.

Now the spotlight is shifting to other phases in agriculture, namely, fruit and vegetable growing. Here, as in the initial stages of Chloro-IPC in cotton weed control, the indications show great promise.

POTENTIAL CHLORO-IPC APPLICATIONS:

FIELD LEGUMES. Outstanding performance in weed control has been reported in the Middle Atlantic states through the application of 2 to 3 pounds of Chloro-IPC in mid-winter on alfalfa plantings.

SEED GRASSES. Fall treatments of Chloro-IPC for annual weeds in alta fescue show excellent promise, particularly in the Pacific Northwest.

VEGETABLES. Tests show promising results on certain leafy vegetables along the Eastern Seaboard in controlling a wide variety of annual weeds. As little as 1 pound per acre has proved effective under certain conditions.

FRUIT AND FOREST NURSERIES. Chloro-IPC soil applications are reported to permit great increases in sapling growth.

A copy of our summary giving results of field testing is available upon request. Contact your local pesticide dealer or write Columbia-Southern's Pittsburgh Office.

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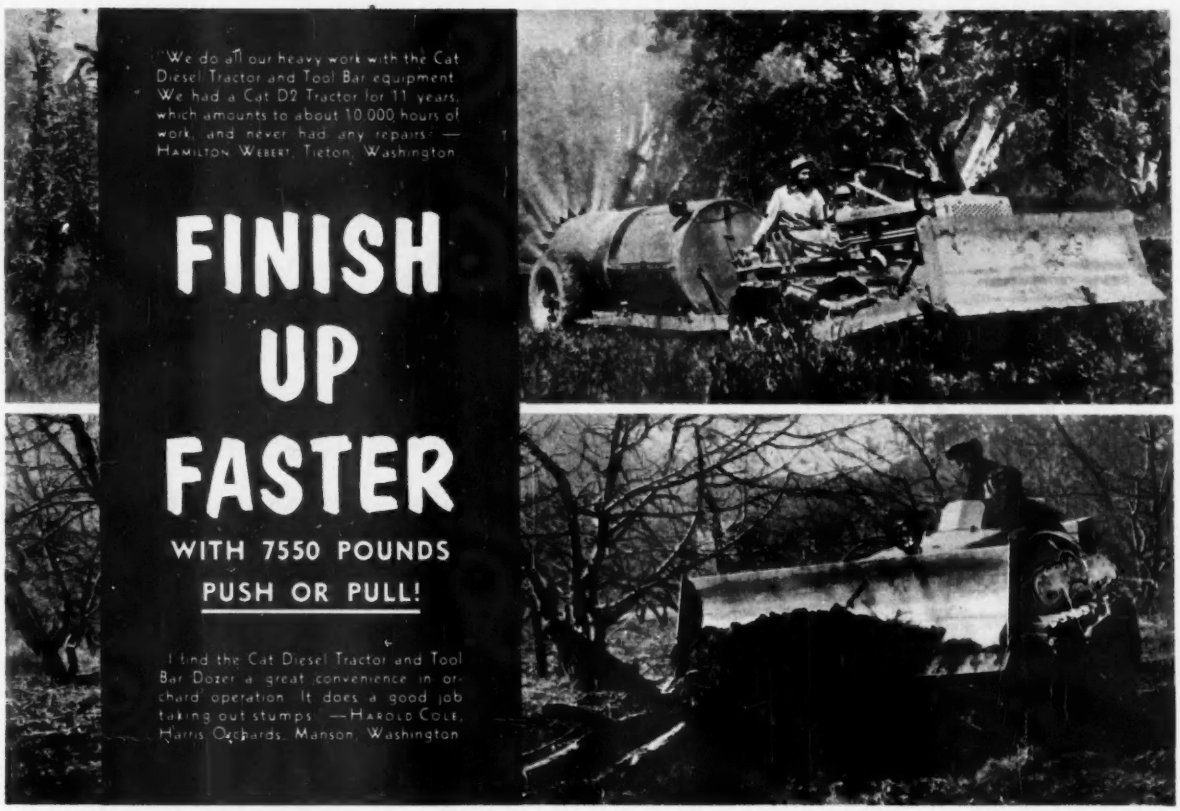
"We do all our heavy work with the Cat Diesel Tractor and Tool Bar equipment. We had a Cat D2 Tractor for 11 years, which amounts to about 10,000 hours of work, and never had any repairs." — Hamilton Webber, Tieton, Washington
FINISH UP FASTER
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7550 pounds of Cat* Diesel Tractor push or pull will make a whale of a difference in your orchard! That's about 3300 more pounds push-pull than the average orchard wheel-type tractor of similar horsepower, and here's what it means to you:

- **Pull bigger loads** . . . get your work done sooner. Fewer trips through the orchard. Less harmful soil packing. Less extra help.
- **Work where wheel tractors can't** . . . mud, sand, sidehills or ditches can't stop you. Keep your spray, cultivation, picking program on schedule.
- **Get uniform spray coverage** . . . keep your rig moving at uniform speed up and down hills. Fewer shifts. Better coverage.
- **Do extra jobs you usually have to hire done** . . . that extra traction makes your time worth so much more when you're pushing out trees, leveling, digging ditches. Don't handicap yourself with wheels that spin helplessly in tough going.
- **Save money** . . . Cat Diesel power cuts your fuel bill by 60% to 80% . . . bonus pull-power helps you accomplish up to 60% more than you do with ordinary wheel-type tractors. Could you use these savings?

Want to see what a Cat Diesel Orchard Tractor will do in your toughest soil condition . . . compared to your present power . . . want to take the controls? Call your Caterpillar Dealer . . . NAME THE DATE . . . HE'LL DEMONSTRATE!

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I have.....acres of orchard. Type of fruit.....

Other farm land.....

☐ I want a demonstration. ☐ Check if student.

Name.....

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CRAG Fruit Fungicide 341

CRAG Fruit Fungicide 341 gives you the best and *least* expensive apple scab control available when you figure *yield* and the *quality* of your crop. You get a higher yield of smooth finished, high quality fruit when you use CRAG 341 in a complete schedule from pre-bloom through last cover. You save because you spend less per bushel of quality fruit harvested. As a bonus, growers have found that they can often avoid the cost of special red mite sprays when they use CRAG 341 in a complete spray program.

If you're tired of trying to out-guess the weather, give your spray program flexibility by using a mixture of CRAG 341 and liquid phenyl mercury. You won't have to worry whether you are spraying "just ahead" or "just behind" an infection period, because this mixture combines the long-lasting protection of CRAG 341 with the after-rain control of liquid phenyl mercury.

Leading growers have switched to CRAG 341.

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American Fruit Grower
• Fruit for Health •

DON'T BE AFRAID to STUMBLE!

Western Colorado Horticultural Society's president delivered this provocative message which is as significant now as when it was delivered in 1951

By KING BANKS

I READ an article not too long ago which impressed me. The title was, "Don't Be Afraid to Stumble." It was illustrated with the story of a group of men sitting in a dark room. Somewhere in that room was an empty chair.

Who could find it? Certainly not those who sat still and philosophized as to just where an empty chair should be placed! No! It was those who got up and felt around and finally stumbled over it.

Regardless of what you hear or learn it will do you no good unless you try it. And in your case it may not work the first time. Just keep stumbling.

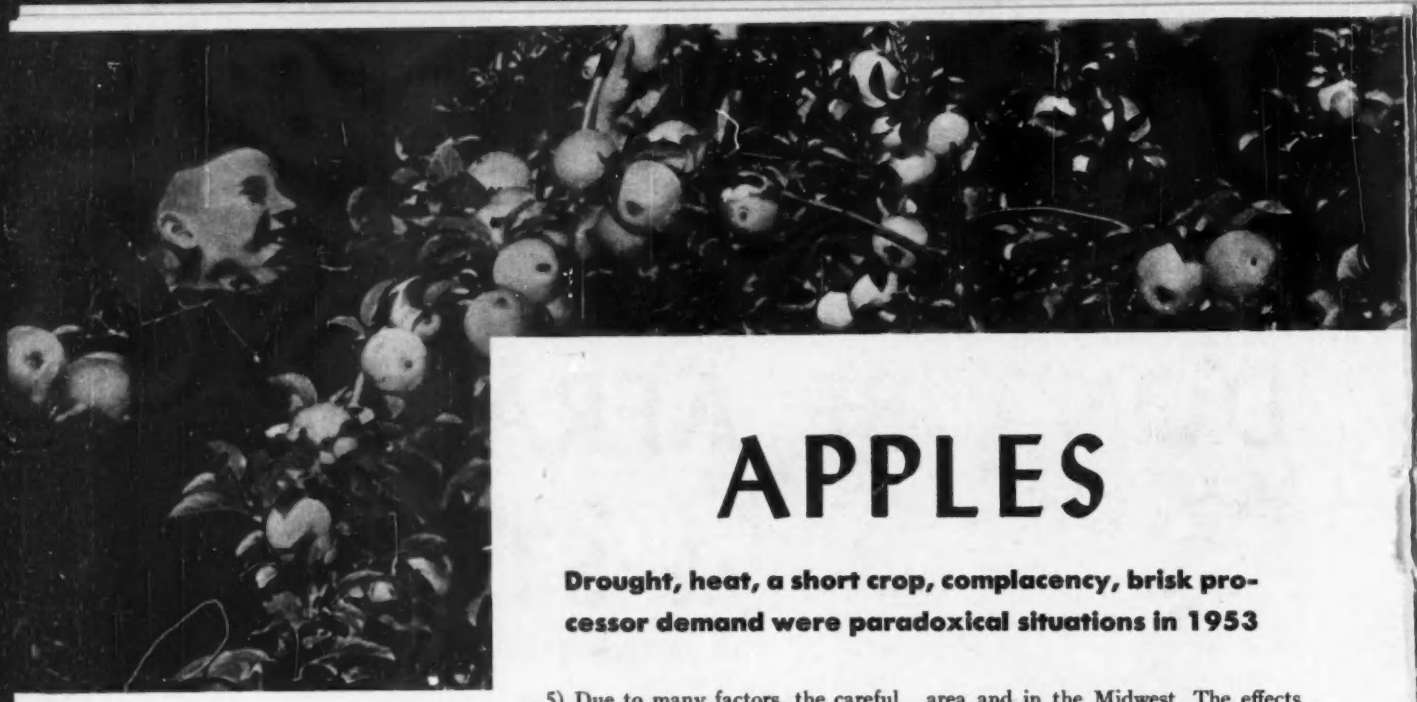
For illustration take sickness of any kind. If we humans take sick we usually go to a doctor. He asks questions, thumps our chests, listens to our hearts, takes our temperature, and we describe our symptoms. Then he prescribes.

The veterinary's job is much harder. He goes through much the same procedure but he can't ask the animal questions nor get descriptions of symptoms. But in most cases he still knows pretty well what to do and what to prescribe.

But when we get sick plants! Boy! oh boy! Is it the soil? Is it the lack of this or that in the soil? Is it a disease or is it insect pests? And so we "cut and try," "cut and try," stumbling around; try this; try that; and finally if we do stumble on the answer, what will work this season might not work next season under different weather and temperature conditions.

But we don't get anywhere by not trying.

DON'T BE AFRAID TO STUMBLE!



APPLES

Drought, heat, a short crop, complacency, brisk processor demand were paradoxical situations in 1953

By FRED W. BURROWS

International Apple Association

IN Chicago, on August 11, 1953, members of the International Apple Association gathered together for their 59th annual convention learned: 1) That the crop was of manageable proportions; 2) that it could be merchandized successfully: 3) that *"Our Own Strength May Be Our Greatest Weakness This Season;"* and 4) that there was no room for complacency if the industry was to move the 1953 crop at the prices that were then in the "air."

Developments from that date to the time of this writing indicate the following trends:

1) The crop has declined due to the drought in the East and Midwest and the smaller than expected size in the West.

2) Movement into fresh channels was delayed in the East and Midwest by the terrific heat wave in late August and early September and in the West by the backward season. Movement picked up in the eastern half after the heat wave, but the above normal temperatures throughout October and into November were not conducive to brisk apple consumption over the nation. Price has also been a factor.

3) Processor demand has been heavy and prices are and have been at a high level. However, due to the short crop and the prices received on the fresh market, indications are that the total tonnage used for processing may not equal last year.

4) Movement of canned applesauce in September was outstanding (1.5 million cases). Some of this was needed to fill the empty pipe lines.

5) Due to many factors, the careful confidence and enthusiasm encountered in the fall of 1952 has, to some degree, apparently shifted to complacency and over optimism in the fall of 1953.

6) A strong, aggressive sales program is needed *NOW* if present prices are to be maintained and the desired movement achieved.

Weather—The Devil

As usual "Old Man Weather" was the determining factor in tonnage and quality of fruit produced. Only New Jersey, most of New England, Delaware, northern Ohio, and most of Michigan were blessed with favorable pollinating conditions. Elsewhere, except for local spots, conditions were unfavorable. Even in the West it was too cool and windy for best pollinating conditions.

In the East the moisture supply was ample in April and May with the fruit, in general, making good growth. However, scab was a continuous battle in many sections. From late May through the balance of the season moisture was the limiting factor in the eastern two-thirds of the country with severe drought conditions in the Appalachian area and in the Midwest. The effects of lack of moisture were further accentuated by the above average temperatures from June 1 on.

In the West temperatures averaged below normal and precipitation above normal during the year, the result being a slow "draggy" season. The fruit matured two weeks later than in 1952.

One outstanding weather feature in 1953 was the phenomenal harvesting conditions from mid-September on. Little, if any, delay was caused by rain or other adverse weather conditions, and it is reasonably safe to assume that a greater percentage of the crop was "in the boxes" on November 1 than in any recent year.

ESTIMATED APPARENT FRESH DOMESTIC PER CAPITA CONSUMPTION OF APPLES BEFORE AND AFTER DECEMBER 1

	Pounds Consumed Before Dec. 1	Pounds Consumed After Dec. 1	Population (In Thousands)
1941	10.7	12.2	132,638
1942	10.1	13.2	133,953
1943	8.2	8.6	135,646
1944	10.5	13.1	137,368
1945	7.8	7.1	138,923
1941–1945	9.5	10.8	
1946	10.1	10.9	141,000
1947	9.5	13.1	144,000
1948	10.2	8.5	147,400
1949	10.1	11.3	150,000
1950	8.9	12.2	152,000
1946–1950	9.8	11.2	
1951	9.3	10.0	154,000
1952	8.8	9.1	157,000
1953 (estimated possibilities)	7.0 to 7.6	10.2 to 10.7	160,000

The Processing Situation

Inventories of canned apple slices and sauce on August 1 were practically nil and even much below the

*Preliminary

short holdings of the preceding year. In view of the light inventories and the relatively short prospective supplies, heavy and early demand was exhibited by processors, especially in the Appalachian area. Prices offered for the raw product started at a much higher level than in 1952 and even increased as the season progressed with most processors paying 4½ to 4¾ cents per pound for 2½ inches and up, U. S. No. 1 Canners plus hauling allowances. Certain varieties, such as York, brought 5 cents.

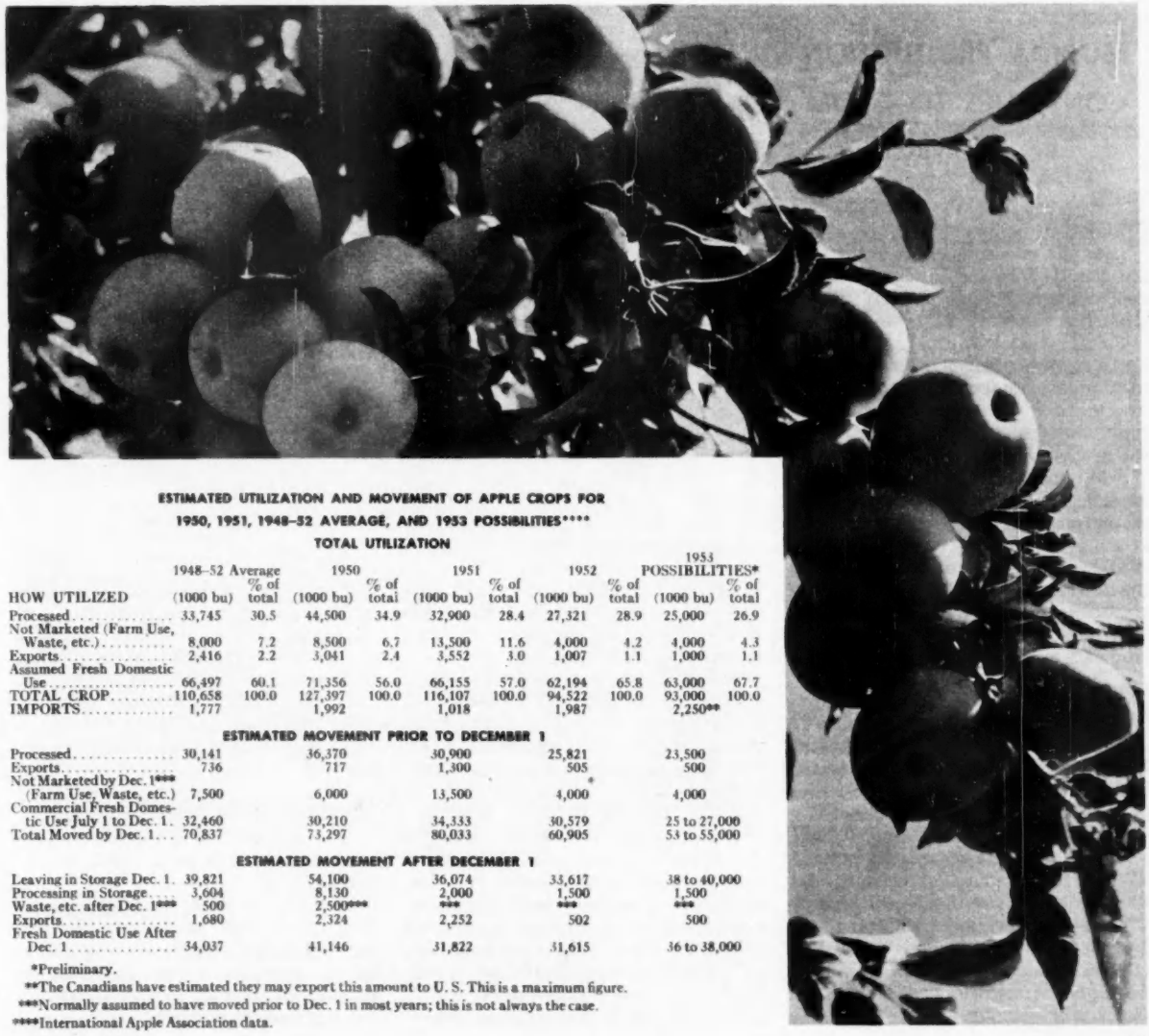
Judging from reports, the tonnage used for processing will be heavier than in 1952 in Michigan, New Jersey, New England, and possibly western New York. In the Appalachian area the processing tonnage may be considerably below 1952. In the West it is doubtful if the 1952 tonnage will be reached due to the shorter California crop and the very small percentage of culls and C-grade in Washington. From these reports and a survey of processor thinking, it is conceivable that the total tonnage to be processed may not equal the 27.3 million bushels so used in 1952. Indications are that canned sauce may equal last year but slices and certain other items will not.

In our opinion, the processing deal may be the "keg of dynamite" this year. True, dynamite can be a constructive aid but must be handled with care. The processors have already committed themselves pricewise. There must be a balance between the processed market and the fresh market. If fresh supplies back up and prices are not maintained, the processed market may be hurt for a period of time. The interdependence of these two industry segments is not fully realized by the industry as a whole.

In 1952 we posed the questions: "Can the processor sell his finished product in volume that will enable him to reflect 'fresh' returns to the producer in a year like 1952?" and "What is the highest price at which sauce or slices will sell in volume?" There are many factors that affect the answers to these two questions. The 1952–53 season disclosed some partial answers, for the processors sold both these items in near record volume and at record prices ($1.60 per dozen 303 cans of sauce). The record September, 1953, movement of sauce at even higher prices shows we have not reached our limits. True, part of this movement was to fill pipe lines. The movement must be pushed and watched carefully to maintain this favorable position.

The progress the processing industry has made in the last decade has been remarkable. It is an important spoke in "Our Wheel of Progress." The processor enables the consumer to have apples in volume and quality, day in and day out, which is a must if we are to progress. In our opinion, the processed apple complements and supplements the fresh deal rather than competing with it. We wonder what the situation would be today if the proces-

(*Continued on page 48*)



ESTIMATED UTILIZATION AND MOVEMENT OF APPLE CROPS FOR 1950, 1951, 1948–52 AVERAGE, AND 1953 POSSIBILITIES****

TOTAL UTILIZATION

HOW UTILIZED	1948–52 Average (1000 bu)	% of total	1950 (1000 bu)	% of total	1951 (1000 bu)	% of total	1952 (1000 bu)	% of total	1953 POSSIBILITIES* (1000 bu)	% of total
Processed	33,745	30.5	44,500	34.9	32,900	28.4	27,321	28.9	25,000	26.9
Not Marketed (Farm Use, Waste, etc.)	8,000	7.2	8,500	6.7	13,500	11.6	4,000	4.2	4,000	4.3
Exports	2,416	2.2	3,041	2.4	3,552	3.0	1,007	1.1	1,000	1.1
Assumed Fresh Domestic Use	66,497	60.1	71,356	56.0	66,155	57.0	62,194	65.8	63,000	67.7
TOTAL CROP	110,658	100.0	127,397	100.0	116,107	100.0	94,522	100.0	93,000	100.0
IMPORTS	1,777		1,992		1,018		1,987		2,250**	

ESTIMATED MOVEMENT PRIOR TO DECEMBER 1

Processed	30,141	36,370	30,900	25,821	23,500
Exports	736	717	1,300	505	500
Not Marketed by Dec. 1*** (Farm Use, Waste, etc.)	7,500	6,000	13,500	4,000	4,000
Commercial Fresh Domestic Use July 1 to Dec. 1	32,460	30,210	34,333	30,579	25 to 27,000
Total Moved by Dec. 1	70,837	73,297	80,033	60,905	53 to 55,000

ESTIMATED MOVEMENT AFTER DECEMBER 1

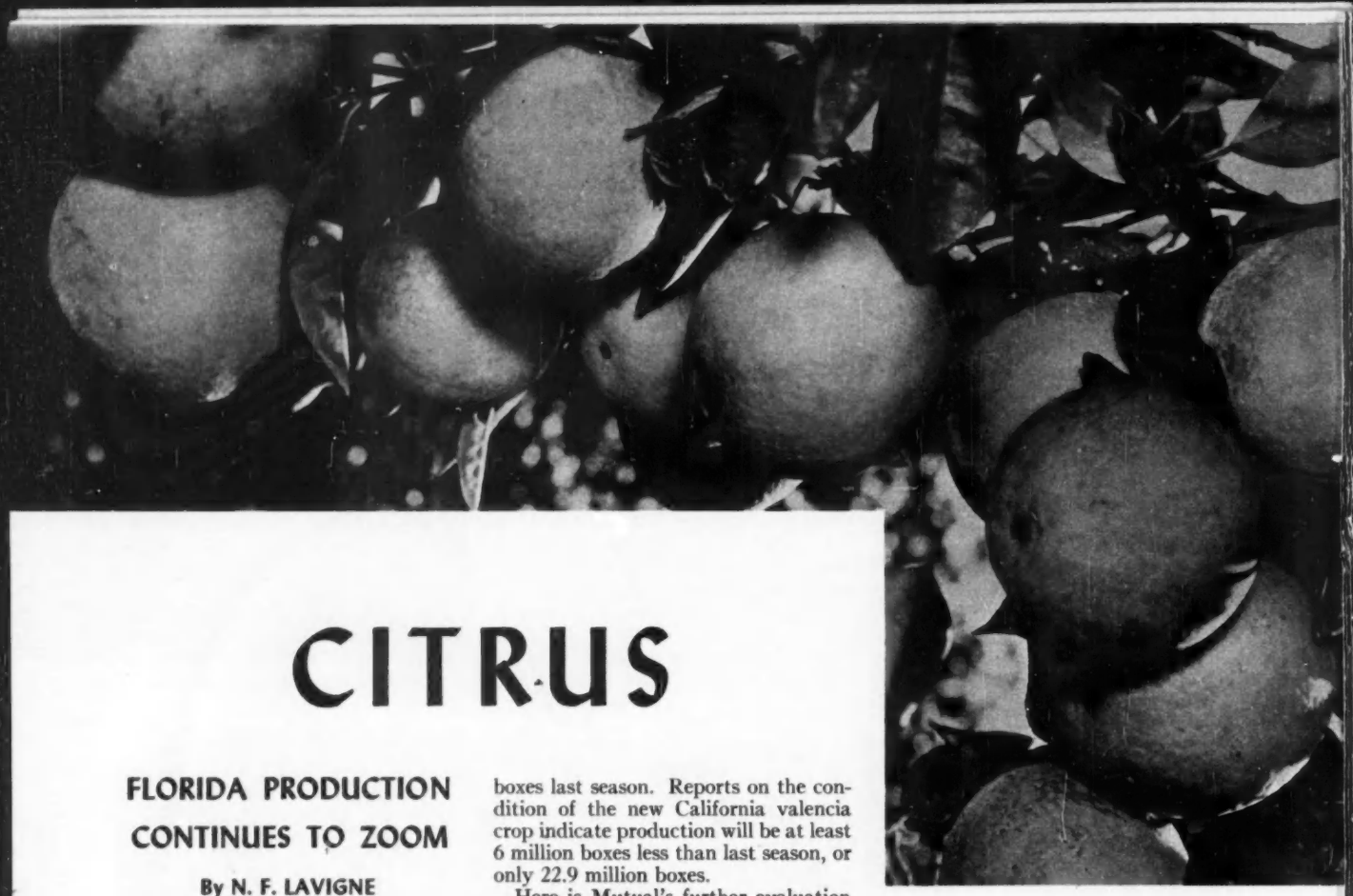
Leaving in Storage Dec. 1	39,821	54,100	36,074	33,617	38 to 40,000
Processing in Storage	3,604	8,130	2,000	1,500	1,500
Waste, etc. after Dec. 1***	500	2,500***	***	***	***
Exports	1,680	2,324	2,252	502	500
Fresh Domestic Use After Dec. 1	34,037	41,146	31,822	31,615	36 to 38,000

*Preliminary.

**The Canadians have estimated they may export this amount to U. S. This is a maximum figure.

***Normally assumed to have moved prior to Dec. 1 in most years; this is not always the case.

****International Apple Association data.



CITRUS

FLORIDA PRODUCTION CONTINUES TO ZOOM

By N. F. LAVIGNE

Florida Citrus Mutual

FLORIDA will continue to dominate the citrus business again during the 1953–54 season, based on expected production as forecast by the USDA.

Florida Citrus Mutual, with 7,000 citrus growers as members and approximately 450 shippers, processors, and intermediate handlers affiliated by contract, foresees no difficulty in marketing the new orange crop.

Additional work is going to be needed, however, Mutual thinks, if the grapefruit crop is to be merchandised at a reasonable price.

The federal government estimates the new orange crop at 80 million boxes. It also forecasts the grapefruit crop at 36.5 million boxes and the tangerine crop at 5 million boxes.

More Oranges, Grapefruit, Tangerines

Total Florida crop indicated by the U. S. forecast is 121.5 million boxes, compared with 109.6 million boxes for the 1952–53 season. The increase of 11.9 million boxes over last season is made up of 7.8 million boxes more oranges, 4 million boxes more grapefruit, and 100,000 boxes more tangerines.

Total U. S. supplies of oranges is forecast by the U. S. on December 1 at 119.9 as compared with 119.7 million boxes last season. Reports on the condition of the new California valencia crop indicate production will be at least 6 million boxes less than last season, or only 22.9 million boxes.

Here is Mutual's further evaluation of the new season:

Tangerine Monopoly

The California navel crop is estimated in the U. S. forecast to be 2.2 million boxes smaller than last season. California navels are in direct competition with Florida oranges during much of the fresh fruit shipping season.

Total U. S. supplies of grapefruit, based on the official forecast, will be 43,160,000 boxes, compared with 38,360,000 boxes in the 1952–53 season. Texas' estimated production is up 700,000 boxes to 1.1 million boxes. At its peak, Texas produced 24 million boxes of grapefruit prior to two disastrous freezes.

Arizona's estimated grapefruit production is up 300,000 boxes. California will probably have the same volume of grapefruit as last season.

Florida has a monopoly on the production of tangerines. The 5 million boxes forecast for the current season from Florida groves constitutes the entire U. S. supply of commercial value.

1953–54 Orange Season

Prospects for the 1953–54 season for the Florida orange grower, based on expected production, existing inventories of canned products including frozen concentrate, and national income are slightly more favorable than last season.

The indicated production of 80 million boxes is not excessive and should be utilized at prices representing cost of production and a reasonable profit for the grower.

Following is our projection on the volume, based on an earlier production estimate, which will be utilized by each outlet:

FLORIDA ORANGE UTILIZATION

	1953–54	1952–53
	(Boxes)	
Fresh	23,000,000	23,000,000
Processed (other than Concentrate)	13,000,000	13,000,000
Frozen Concentrate	39,500,000	32,500,000
	(53,325,000 gals.)	(46,500,000 gals.)
Other	3,500,000	3,700,000
TOTALS	79,000,000	72,200,000

Price Guide Information is being prepared showing the true economic value of Florida oranges. This information is authorized by the 1953–54 Program for Results adopted by the Board of Directors of Florida Citrus Mutual on July 9, 1953. It will be supplied grower members when such information is deemed essential.

Grapefruit Outlook

The outlook for grapefruit returns cannot be forecast with safety at the present time.

The crop is larger than last season. Whether it will prove unwieldy depends principally on the success achieved in bringing several projects to completion for *expanding existing outlets* and *creating new ones.*

*Preliminary

PRICES—Fresh

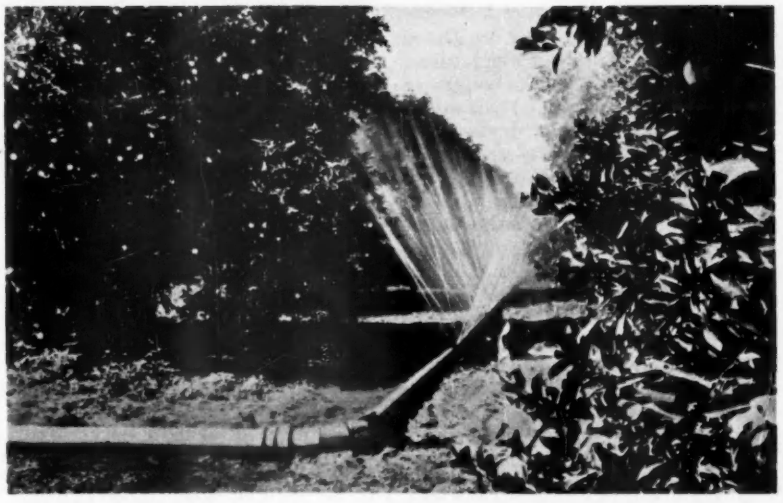
Season Average Price Per Box Received by Grower F.O.B. Packed

	1949–50	1950–51	1951–52	1952–53*
Oranges				
(including tangerines)				
Arizona	2.94	4.32	4.83	3.92
California	3.70	3.84	4.10	3.51
Florida	3.62	3.31	2.50	2.98
Texas	3.58	2.78	6.02	3.72
Grapefruit				
Arizona	2.35	2.03	2.37	2.29
California	3.27	2.77	3.38	3.32
Florida	3.43	2.68	2.32	2.61
Texas	3.15	2.77	6.47	4.15
Lemons				
California	6.00	5.88	6.40	6.25

PRICES—Processed

Season Average Price Per Box Received by Grower P.H.D.

Oranges				
(including tangerines)				
Arizona	.67	.86	1.06	.81
California	1.02	.76	.54	.76
Florida	2.31	1.83	1.13	1.62
Texas	1.43	.72	—	.77
Grapefruit				
Arizona	.35	.46	.26	.41
California	.33	.16	.14	.21
Florida	1.83	.91	.42	.70
Texas	1.73	.64	.60	.67
Lemons				
California	2.33	.98	1.55	2.82



Favorable Factors

There are, however, a number of favorable factors which should be considered in any appraisal of the prospects for disposing of the grapefruit production this season. These include: 1) Early start; 2) favorable processed goods inventories; 3) exports; 4) school lunch program; 5) "summer" bloom; 6) modest orange crop; and 7) increased advertising tax.

Further amplification of these items follows:

1) *Early Start.* Because of earlier maturing of the 1953–54 grapefruit crop, approximately 1.6 million boxes will have been utilized by late fall through the fresh fruit market or by processors. This leaves slightly less than 36 million boxes remaining.

2) *Favorable Processed Goods Inventories.* As of late fall of 1953, the Florida Canners Association reported 438,602 cases of grapefruit juice on hand, only a little more than one-half as much as on the same date a year ago. There were approximately 350,000 cases of grapefruit sections on hand in late fall, compared with almost 500,000 cases a year ago. The inventory position of blended juice, usually composed of 60 per cent grapefruit juice, also is very favorable, with less than 140,000 cases on hand in late fall compared with more than 500,000 cases in 1952.

There were 7,727,018 gallons of frozen orange concentrate on hand on October 1 in salable, retail sizes. Sales in September, 1953, amounted to more than 3.6 million gallons, and only slightly less than that in August. This indicates there will be only 4 million gallons on hand on November 1, compared with more than 7.5 million gallons on the same date a year ago.

3) *Exports.* It is possible that 2 million boxes of grapefruit may be utilized through export channels, including the export subsidy payment program, and the several foreign aid and foreign trade plans either already authorized by Congress or being given consideration.

4) *School Lunch Program.* The school lunch program also can be expected to absorb somewhat more grapefruit than in past years.

5) *"Summer" Bloom.* Figures released by the Growers Administrative Committee indicate 7 per cent of the white seeded and 4 per cent of the white seedless production will be composed of "summer" bloom fruit. This could result in a substantial extension of the fresh fruit shipping season, enabling considerably more grapefruit to be sold through that outlet than would be the case if the shipping year were shorter.

6) *Modest Orange Crop.* The comparatively moderate orange production indicated by the official crop estimate should result in increased utilization of grapefruit, because of the price and movement relationship between oranges and orange products and grapefruit and grapefruit products.

7) *Increased Advertising Tax.* The increase of two cents per box in the advertising tax on grapefruit, authorized by the recent Legislature, will make it possible for the Florida Citrus Commission to expand its grapefruit advertising and promotional program and should result in an increase in consumption of Florida grapefruit.

CALIFORNIA PROMOTES FRESH ORANGE USE

By PAUL S. ARMSTRONG

Sunkist Growers

THE year 1953 was one of constant experimentation to discover how new techniques in growing, in packing and picking, and in shipping will provide the most economical methods to move California-Arizona citrus to market.

Competition between fresh oranges and canned frozen concentrate for juice points up the fact that the western citrus grower receives the highest return for his crop when it is shipped fresh. It also shows that California-Arizona concentrate cannot be delivered in eastern markets at a price competitive with juice from other citrus producing areas.

Future Is Optimistic

Recent magazine and newspaper articles have given the impression that California is rapidly going out of the citrus business. Nothing could be further from the truth and, as a matter of fact, many citrus leaders in California and Arizona view the future with considerable optimism.

Certainly, there have been some evolutionary changes in the industry within recent years. Acreage devoted to citrus has declined, yet the total taken out of production has been small and there has been an increase in new plant-

(*Continued on page 50*)

CHERRIES

SUCCESSFUL SEASON FOR TART CHERRIES

By F. A. GILBERT

University of Wisconsin

THANKS to several factors, the 1953 season was a more successful one for the entire cherry industry. The depressing effect of excessive frozen cherries prior to the 1952 season was absent in 1953 since most of the shelf stock was sold and everyone approached the harvest season with an optimistic outlook. The clean shelves coupled with a good but not excessive yield of cherries and a somewhat short crop of the two competing pie stocks—apples and blueberries—proved to be a much needed boost to the industry.

As a result of these cumulative beneficial factors, growers in the major tart cherry producing regions received in the neighborhood of nine cents per pound. This price was one in which growers could realize a profit.

1953 PACK OF RED PITTED CHERRIES**
(in actual cases)

State	1952	1953*
N. Y. and Pa.	670,650	409,994
Ohio	66,539	***
Michigan	2,619,214	2,739,265
Wisconsin	342,427	526,495
Other states	193,174	172,875
U. S. Total	3,892,004	3,849,629

**Source—National Canners Association Report, September 4, 1953

***Included in other states

There was an increase of 41 million pounds of processed cherries in 1953 as compared with 228.2 pounds in 1952 in the five major producing states of Michigan, Pennsylvania, New York, Wisconsin, and Ohio. In breaking this figure down, we find that there was an increase in the frozen pack in the principal states from 62.8 million pounds in 1952 to 111.8 million pounds in 1953. The hot pack, on the other hand, remained about the same.

During most years there are factors which affect a fruit crop which cannot be foreseen. These include winter injury, frost injury, wind and hail storms, and extended periods of dry weather. Practically all of these entered in the picture in 1953.

Cherries are plagued with virus diseases, the principal one being cherry yellows. Efforts of research men are beginning to bear fruit in the form of trees which are relatively free of yellows when purchased from the nursery.

Another factor receiving considerable attention is overall nutrition. Studies show that many cherry soils are becoming deficient in elements other than nitrogen, and the principal offender is potash. Fertilizer applications of potash have brought about very striking improvements in tree condition and fruit yields.

The tart cherry industry is taking a positive step in promoting sales and in planning for the future. This is being done by growers and processors through the National Red Cherry Institute. They are continually working on new promotion schemes such as the National Cherry Pie Baking Contest, tie-in advertising with other commodities, new outlets such as the consumer package of frozen cherries, new ways to use sour cherries, and others.

*Preliminary

PRICES GOOD FOR SWEET CHERRIES

By REID M. BROOKS

University of California

PRICES—good; production—average; result—cherry growers fairly happy in 1953. The average price received per ton by the grower in California, Washington, and Utah in 1953 was the second highest seasonal return during the past 16 years. Idaho and Oregon, however, have had six or seven better financial years.

SWEET CHERRIES
Average Price Received per Ton by Grower

Year	Calif.	Wash.	Oreg.	Idaho	Utah
1938	$84.20	$77.60	$56.00	$60.00	$70.00
1950	272.00	220.00	252.00	295.00	282.00
1951	361.00	332.00	273.00	275.00	350.00
1952	221.00	225.00	163.00	170.00	218.00
1953	331.00	285.00	234.00	240.00	310.00
1938–1953 average	229.34	206.34	185.81	188.50	209.13

For higher average prices than these in the Far West we must look to several states east of the Rockies—Colorado with an average of $400 per ton, Montana and Pennsylvania each with $340, and Ohio with $345.

Washington and California produced a crop about equal to the average for the past 16 years, but Oregon went 7,000 tons over the average. On the other hand, production in Idaho and Utah was lower than their averages. But in all cases each state received more for its crop than the average for the past several years.

SWEET CHERRIES
Production in Tons

Year	Calif.	Wash.	Oreg.	Idaho	Utah	Total
1938	30,000	19,900	18,100	2,200	2,800	73,000
1950	31,000	16,500	17,400	1,250	440	66,590
1951	19,800	12,700	16,700	3,250	4,000	56,450
1952	39,500	16,200	17,100	4,720	4,500	80,220
1953	29,700	21,400	27,700	2,440	2,500	83,740
1938–1953 av.	28,906	23,706	20,644	2,583	3,190	78,854

The upward trend in bearing acreage is much in evidence in all states. Viruses are continuing to take their toll, yet replanting thus far is able to keep well in advance of that situation. It is of prime importance that the grower replant with healthy, virus-free trees.

Since the incidence of buckskin virus on the Pacific Coast remains high, the variety Long Stem Bing, grown only locally in a few places in California, may prove of value in such virus-infected areas. Thus far, this variety has not become infected in the orchard. Long Stem Bing's disadvantages are its tendency to be a shy bearer and its long stem which makes for a poor consumer package. It matures about 10 days later than Bing. THE END

PEARS

Formation of bargaining association is historic step toward stabilizing cannery pear prices

By FRED H. WESTBERG

Washington State Fruit Commission

PEARS, a fruit enjoyed by mankind since the dawn of history, have their greatest production in the western states. California, Oregon, and Washington grow more than 90 per cent of the pears produced nationally. However, this fine table fruit is produced in commercial quantities in Michigan, New York, and Colorado, and as a home orchard tree in many other areas.

Bartlett Pack Increasing

Bartletts are used for commercial processing, for fresh fruit table use, and for home canning. Small quantities of Bartletts are dried commercially. The commercial Bartlett pack has been growing steadily to the point where the average national pack is seven million cases, No. 2½ can basis. Substantial tonnages of California-grown Bartletts are used as one of the ingredients of fruit cocktail and fruit salad, a canned pack that ranks high in processing volume.

In 1953 commercial production of Bartletts in the three western pear producing states reversed itself over the preceding year. In 1952 California experienced almost a record production of Bartletts, whereas in 1953 her production of Bartletts dropped more than 15 per cent from a 1952 high of 325,000 tons to 265,000 tons in 1953.

Washington experienced the opposite condition. In 1953 commercial Bartlett production in Washington was up 60 per cent from 65,000 in 1952 to 105,000 in 1953.

Oregon Bartlett production remained relatively stable during the two years. Production in 1953 totaled approximately 60,000 tons.

PRODUCTION—ALL PEARS—Million Bushels

Average: 1942–51	30	1952	31
1951	30	1953*	29

Winter pear production for the three Pacific Coast states this year is estimated 24 per cent higher than in 1952. The Bosc variety showed the greatest percentage increase. Total 1953 winter pear production is estimated at 4,790,665 packed boxes.

Red Bartlett

Red Bartlett is the newest element in Bartlett pear production from the variety standpoint. This pear, which matures to a surface color of rich red, was developed by A. D. McKelvie, Zillah, Wash. It is now rather generally distributed throughout the Northwest, and commercial shipments have indicated trade interest and acceptance of the variety. The Red Bartlett is similar to the traditional Bartlett in flesh color, texture, size, and time of maturity.

Plastic film liners in containers are a new development in packaging of pears. Pears sealed in plastic film are reported to have one or two months' longer storage life than those packaged in the traditional manner, and they also mature with excellent quality and possess greater shelf life.

The year 1953 proved to be a favorable pear growing year in every respect except frost. Both California and Northwest pears were affected by freezing spring weather. Bartletts in several important producing areas of California suffered extensive damage. Cold in the Northwest came at a time when the Bartlett bloom was less susceptible to injury.

Association Formed

From the standpoint of marketing, 1953 is a historic year. In California it marked the beginning of the California Canning Pear Association, a grower-processor price bargaining organization similar to the California Canning Peach Association in operation for many years. This new development in Bartlett pear grower-processor relations resulted from unfavorable pear prices paid producers by pear processors in 1952 and also through the skillful leadership of Jack Z. Anderson, prominent California pear grower and former congressman.

The California Canning Pear Association, representing a substantial part of the total canning pear tonnage of California, successfully negotiated a 1953 pear price with processors at a level regarded as fair to growers and stabilizing in its effect on sales of the finished product. The contract of the association with its pear grower members covers two years and gives the association the selling rights in connection with the fruit.

Promotion Expanded

Still another development for pears is a growing appreciation on the part of growers that their product must be promoted in order to hold its position in the market place and provide a home for expanded production.

From a small beginning in 1952, growers of cannery Bartletts in Washington, California, and Oregon have now combined in a nationwide promotion of their canned pears using the services of the Washington State Fruit Commission.

Promotion of fresh Bartletts likewise has expanded in recent seasons. While California and Washington producers perform independently in fresh Bartlett pear promotion, this season witnessed a co-operative promotion effort for Oregon and Washington fresh Bartletts which could conceivably expand into a Pacific Coast fresh Bartlett promotion campaign in future years.

Winter pears from the three Pacific Coast states have, of course, received market support for many years from the Oregon-Washington-California Pear Bureau. Personnel of this organization also assist in fresh Bartlett merchandising activity. THE END

BERRIES and BRAMBLES

Blueberry gains in popularity; more strawberry acreage succumbs to drought

By D. H. SCOTT

U. S. Department of Agriculture

PEOPLE continue to be increasingly interested in growing cultivated blueberries as more of them become acquainted with the crop and its plant requirements. The plants thrive under widely different conditions so long as three basic requirements are satisfied: 1) a moderately acid, fairly friable soil; 2) a well-drained site; and 3) a uniform supply of moisture. Favorable conditions vary from hillside sod culture in New England to a heavy sawdust mulch on a mineral loam soil in northern Ohio. Rabbiteye plants, with their vigorous growth and heat tolerance, are increasing in popularity as a home garden fruit for the deep South.

The 1953 crop found a ready market with prices holding strong throughout the season.

The crop of native berries in Maine and New Hampshire was short as a result of extremely dry weather in 1952 that damaged the bushes. In North Carolina heavy late freezes on April 14 and 21 caused severe damage.

The new rotary power hoe manufactured by Friday Tractor Company, Hartford, Mich., is being used by a number of growers. It eliminates much hand hoeing.

Liberal applications of fertilizer are being used on plantings in New Jersey and North Carolina. Dr. J. C. Cain's recent work in New York has clearly demonstrated the value of ammonium sulfate as a fertilizer on soils where the pH is approaching the upper limit for blueberries.

Control of mummy berry by two well-timed ziram sprays appears feasible as a result of studies conducted by Drs. A. C. Goheen and E. H. Varney in New Jersey. The first application should be made as a delayed dormant spray just prior to release of spores by the causal fungus, using three pounds of ziram per 100 gallons of water and wetting the bushes thoroughly. This should be followed a week later by a second application. In New Jersey, the first spray is usually applied between April 1 and 10.

Demand for plants of the three new varieties—Earliblue, Bluecrop, and Herbert—introduced in 1952 resulted in a complete sellout of stock by nurserymen, indicating a keen interest in varieties producing large-sized fruit. The "big six" varieties for northern areas, listed in order of ripening, are Earliblue, Ivanhoe, Bluecrop, Berkeley, Herbert, and Coville. Pemberton's vigorous plant and large, good-flavored fruit are increasing its popularity as a home-garden and local-market berry, but the fruit is too perishable for distant shipments.

Croatan, a new canker-resistant variety, was introduced jointly by the North Carolina station and the USDA in 1953. It is the fifth of a new series of canker-resistant varieties that includes Angola, Wolcott, Murphy, and Ivanhoe. These are being planted in North Carolina as rapidly as planting stocks can be obtained by growers.

Decrease in Strawberry Acreage

Strawberries have a high cash value at the present time if yields of 200 to 250 crates per acre are obtained. Favorable prices have been received by growers the past two years—reflecting probably in part a reduction in acreage. The 1953 prices were somewhat higher than the 1952. The estimate by the U.S. Bureau of Agricultural Economics, of 109,850 acres for 1954 is three per cent less than in 1953 and 15 per cent less than the 1949–52 average; hence market conditions should continue favorable in 1954. Most of the reduction in acreage is in Arkansas, Missouri, Kentucky, and Virginia, where two successive drought years have contributed to a loss of more than 50 per cent in acreage.

Arkansas, Maryland, and Tennessee are large plant-producing states and all have been hard hit by dry weather. Supply of stocks in Tennessee is a bit more than 50 per cent of normal and growers are advised to order their plants early. This spring, nurserymen will be offering eastern growers initial stocks of virus-free plants of some of the principal varieties: Blakemore, Sparkle, Catskill, Howard 17, Tennessee Beauty, and Klondike. Likewise, on the West Coast superior virus-free stocks of Marshall, which constitutes more than 95 per cent of the acreage in Oregon and Washington, are available in quantity.

Nurserymen and growers alike must be more careful in choice of nursery stock to assure freedom from red stele. Wet weather during late winter and early spring of 1953 was followed by one of the worst outbreaks of red stele ever experienced in eastern United States. Red stele, including that caused by the new races of the causal fungus that infect Temple, Sparkle, Fairland, and Vermilion, has spread rapidly until now it is a serious threat to strawberry growing in many commercial sections.

Three cultural practices that will be of considerable interest to growers are 1) trials with a growth regulator, beta naphthoxyacetic acid (BNOA), for increasing size of fruit (Oregon tests have been favorable when a solution of 50 parts per million was applied about two weeks after bloom, but tests in Michigan and at Beltsville gave no response when entire plants were treated); 2) use of high rates of phosphorus as band applications on new plantings in Washington for growers in the Northwest; and 3) increasing use of chemical weed killers in plantings. There is general agreement that Crag Herbicide #1 can be used to good advantage by growers to reduce hand labor. Two or three applications of 3 to 4 pounds per acre at monthly intervals in midsummer kills many weed seedlings before emergence. The chemical is not effective against established weeds so it should be applied following cultivation.

New Varieties

Three new varieties of strawberries were introduced in 1953 by public agencies. The Illinois Agricultural Experiment Station introduced Plentiful, a red-stele-resistant variety. The USDA in co-operation with the Virginia Truck Experiment Station introduced Pocahontas, a firm-fruited shipping berry, for growing in south-central United States. Dixieland was introduced by the USDA in co-operation with the North Carolina Agricultural Experiment Station for southern areas.

See page 36 for report on BRAMBLES

NUTS

Mechanical tree shakers are being used almost exclusively to cut costs in harvesting nuts

By H. L. CRANE

U. S. Department of Agriculture

THE total expected 1953 crops of almonds, filberts, pecans, and walnuts is estimated at 194,920 short tons of nuts, inshell basis. This production is about 10 per cent more than the 1942–51 average but about six per cent less than the large crop of 1952. This seems like a lot of nuts but it is only 2.4 pounds per capita. When it is reduced to a shelled or kernel basis there would be only about one pound of nut kernels for each of the 160 million of our population. Although there has been little or no increase in the price of nuts during the past 10 years there has not been any appreciable increase in per capita consumption.

The cost of production of all nuts has materially increased during the past 10 years as has that of all other agricultural crops. Nut growers have made serious efforts to keep production costs per pound of nuts as low as possible. This has been done through following practices known to increase production per acre such as applying more fertilizers, using better cultivation, irrigation and cover crops, and giving more careful attention to disease and insect control.

In addition mechanical tree shakers are now used almost exclusively in harvesting pecans and walnuts and great strides have been made in the development and use of mechanical harvesters in the gathering of other nuts. These mechanical harvesters are out of reach of small growers who have had to resort to other means of harvesting besides gathering the individual nuts from the ground. Improvements have been made in the almond sled and in handling of sheets to reduce labor costs.

In harvesting walnuts and filberts, growers have used various forms of rakes and brooms to gather the nuts in windrows or piles, forks or scoops to gather the nuts up, and specially designed machines to separate the nuts from soil, leaves, hulls, or husks.

PRODUCTION (SHORT TONS) OF TREE NUTS INSHELL*

Kind of Nut	1942–51 average	1952	1953 (expected)
Almonds	35,880	36,400	36,100
Filberts	7,138	12,250	5,240
Pecans:			
Budded	28,773	37,340	42,590
Seedlings	34,485	36,633	49,890
Total	63,258	73,973	92,480
Walnuts	70,510	83,800	61,100
Grand Total	176,786	206,423	194,920

*Data supplied by USDA Bureau of Agricultural Economics.

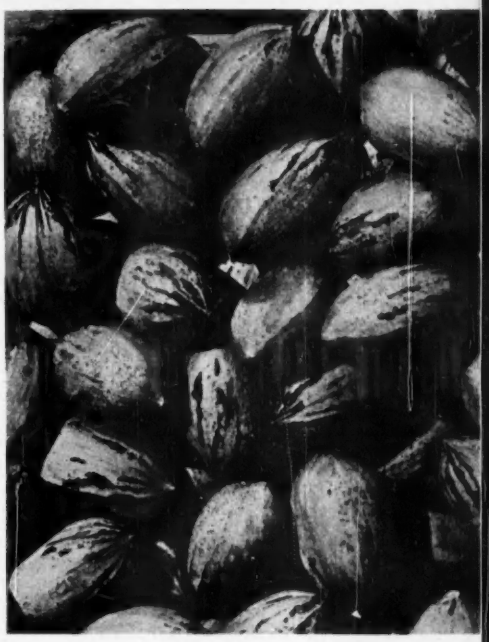
Almonds

The 1953 crop is essentially the same as that of 1952 and the 10-year average. Quality was generally good and size of the nuts for inshell sales or as kernels was somewhat smaller than in 1952. Although it was estimated that about twice as many small kernels will be produced as last year the supply will not satisfy the demand of candy bar manufacturers. The 1953 crop was produced notwithstanding the rather extensive series of spring frosts that resulted in light crops of certain varieties in some areas.

The almond crop is expected to increase in tonnage because of extensive planting of new orchards not yet in full bearing. In addition these new orchards have been planted for the most part on better soil than older ones. It has been found that almonds respond favorably in tree growth and yield to irrigation and nitrogen applications. In general yearly applications of about 100 pounds of elemental nitrogen per acre in the form of ammonia or ammonium nitrate has been found profitable.

Filberts

The filbert crop of Oregon and Washington in 1953 was a disappointment



because of its small size, very late date of maturity, and the rather large percentage of blank nuts which did not show up until late in the season. The cause of these blank nuts is not known. Although blank nuts were formerly thought to be due to inadequate pollination it has been shown that liberal fertilization with nitrogen very significantly reduced their occurrence. It is believed that the large crop of 1952 and the unfavorable weather conditions prevailing at bloom are the primary causes for the light crop (only approximately 43 per cent of that of 1952 and 73 per cent of the 10-year average). Prices to growers for orchard-run filberts have been about 18 cents per pound, somewhat higher than last year. Prices the growers have received for filberts in recent years have been little above the costs of production and have curtailed the rate at which new orchards have been planted. Production is expected to

increase because many of the orchards are not yet in full production.

Pecans

The total 1953 pecan crop, estimated at 92,480 tons, is the largest crop on record exceeding by about 5 per cent the record crop of 1948. Production of improved varieties is estimated at 46 per cent of the total crop and that of seedling, or wild, nuts at 54 per cent. In many sections cool rainy weather prevailed early in the growing season, thus providing ideal conditions for infection of leaves by leaf spot disease organisms and of the nuts by the scab organism, with the result that in unsprayed orchards pecan scab on susceptible varieties lowered the quality and in some cases destroyed the crop.

In addition, many unsprayed orchards or those that did not receive the full spray schedule were prematurely defoliated as a result of leaf spots and insect damage. Trees that defoliated early in some cases produced a new crop of leaves prior to harvest of the nuts. In certain areas the nuts on these prematurely defoliated trees did not mature satisfactorily and some preharvest germination was experienced.

Because of the widespread and almost continuous dry weather from early September to mid-November preharvest germination was at a minimum. This dry weather greatly facilitated prompt harvest but a large percentage of the nuts were poorly filled and of low quality, perhaps because of a combination of disease and insect damage to the foliage, early defoliation, and the heavy crops of nuts borne by the trees.

As a result of these conditions prices received by growers varied widely and ranged from little if any more than the cost of harvesting to premium amounts paid for large quantities of high-quality, well-filled nuts. It is expected that when the marketing season is over average prices received by growers will be somewhat lower than in recent years because of the large crop of which a fairly high percentage was of poor quality. It is expected that the crop of pecans in 1954 will be considerably below that of 1953 because of the very large crop just produced and the depleted food and mineral reserves left in the trees at the end of the crop season.

Walnuts

The walnut (Persian, English) crop of California and Oregon is estimated at 61,100 tons, about 27 per cent less than that of the large crop of 1952 and about 14 per cent less than the 10-year average. Some sections in California had very good crops while others had short crops. In Oregon few orchards produced what could be considered large crops. In southern California the crop was again affected by delayed foliation caused by the winter weather being too warm and not providing sufficient chilling temperature to break the rest. In Oregon, cool spring and early-summer weather delayed the time of bloom and the development of the nuts so that harvest was fully three weeks late.

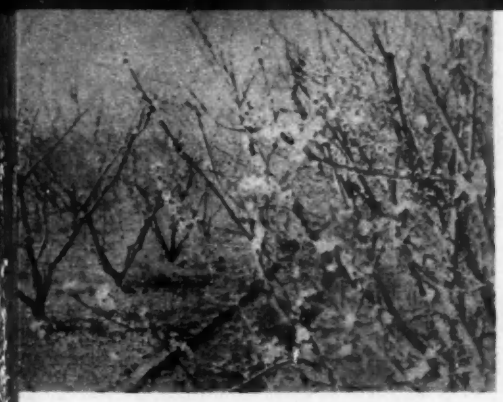
In California the quality of nuts produced was generally good, but not as good as in 1952. In Oregon quality of the nuts was not as good as hoped for, probably because of the unusually cool weather experienced during most of the growing season. Little sunburn of the nuts was experienced in Oregon but in California high temperatures during the second week of September caused some, but not serious, damage. Bacterial blight caused little loss of crop except in orchards where the control program was not carried out properly or on seedling trees where the spray or dust applications could not be properly timed.

Walnut production is expected to increase slightly in the near future notwithstanding the decline in production taking place in southern California since in the northern parts of that state there are extensive plantings not yet in full production. In Oregon new plantings are about keeping pace with tree removals. In addition growers are for the most part giving their orchards much better attention.

At this time probably the most serious problem confronting walnut growers is "black-line," a failure of the graft union which generally does not show up until the trees are 15 years or more old. Persian walnut trees affected with this disorder have in all cases been grafted or budded on northern California black walnut rootstocks or hybrids with that species.

The northern California black walnut has been generally used as a rootstock for the Persian walnut because of its vigor, ease of grafting, and its supposed resistance to mushroom root rot. Recent investigations have shown that it is susceptible to infection by the mushroom root rot fungus. THE END

*Preliminary



PEACHES

Major interest in the Queen centers around getting a better, riper peach to consumer markets

By M. J. DORSEY

National Peach Council

THE peach picture for 1953 seemed to be especially promising for most states after the dangers from winter temperatures and spring frosts were over. As the season progressed, however, growers encountered the usual loss from storms, especially hail, which took a heavy toll in some sections. The most serious weather hazard came from lack of rain in the East and Midwest. All told, as the season ended, size and quality were much below what was expected earlier.

PRODUCTION—Million Bushels

Average: 1942–51	67	1952	63
1951	64	1953*	64

The USDA's October 1 report places the overall yield at 63,894,000 bushels, which includes 22.5 million bushels of clingstones from California. The National Peach Council's midseason report placed the commercial movement of freestones at about 34 million bushels.

New Plantings

Reduction in commercial plantings in the East, which seemed so much in evidence in 1952, was obvious also during the 1953 season. In numerous areas, however, new plantings are bringing the curve up so that in years to come eastern production may not drop very much lower since the damage from winter injury two seasons ago has virtually run its course.

The industry in some regions is encountering some difficulty in setting out new acreage on old sites. In the Atlantic Seaboard states this problem is more acute than in heavier soil-type areas, and it is also being given careful analysis in the irrigated sections of the West.

The variety situation is following much the same lines as last year. The swing to the early varieties with better color and higher quality is still a pronounced trend in new plantings. However, the dominant commercial variety continues to be Elberta, with Golden Jubilee and Halehaven losing ground.

Needed—A Good Consumer Package

There is increased interest in a consumer unit package, and it is apparent that the peach needs a small unit that will "click" in the market. The two-thirds-bushel gained in popularity, especially in the Southeast. The wirebound box is gaining, and the western box encroached still further upon eastern markets in the 1953 season.

Warm Reception for Cooled Peaches

There has been increased interest in various types of quick-cooling. Hydrocooling is gaining in favor so rapidly in some areas that it may not be many years before quick-cooling will be a "must," especially for distant shipments.

With large acreage to deal with, eastern growers are still nervous about letting peaches mature sufficiently to be handled in this manner; and judging from the appearance of a considerable fraction of the western volume, even with as much as six days in transit to cope with, it seems that the industry as a whole has not yet learned how to take full advantage of the better color and quality which comes with "ripe" picking.

The self-service trade has grown gradually and a soft fruit like the peach has to meet its competition through "eye appeal." With cooling capacity now available in both refrigerated cars and trucks, quick-cooling puts within the reach of the grower one of the most effective means of stepping up the position of the peach in the retail trade.

Helpful Trade Information

The spread between southern, northern, and western production was more nearly normal during the 1953 season than it was in 1952. The National Peach Council based its reports to the trade on a breakdown of volume from each area by varieties and dates. This makes it possible for the trade to estimate the volume by varieties which will come on the market from the different areas.

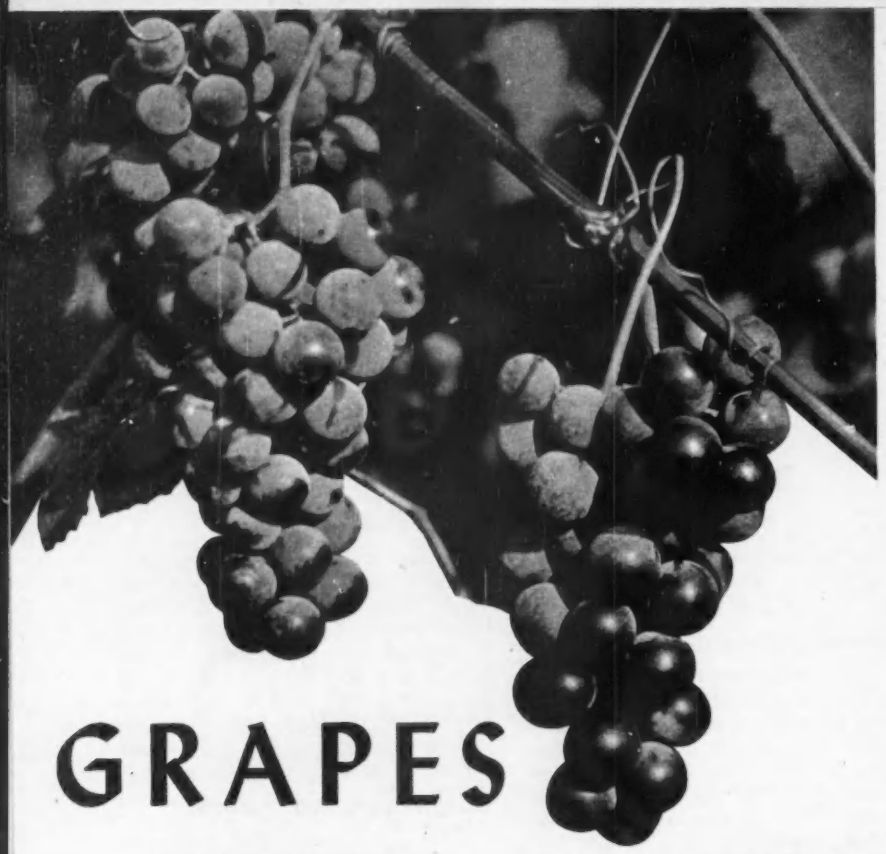
Encouraging Outlook for 1954

Most regions report that their trees are going into winter with a good bud set. This, generally, is the case following a dry season, particularly if the trees have been well cared for and properly thinned so that there was not a serious overload. There will be some danger from low winter temperatures after prolonged dry weather if the soil is not "soaked" with adequate fall rains. The overall picture would seem to be favorable for the peach crop in 1954. THE END

ALL METHODS OF SALE

Season Average Price Per Bushel Received by Grower

	1952	1953*		1952	1953*
N. H.	3.90	3.40	Ga.	3.15	2.90
Mass.	3.60	3.10	Fla.	2.60	2.45
R. I.	3.60	3.10	Ky.	2.30	2.30
Conn.	3.50	3.20	Tenn.	2.20	2.40
N. Y.	2.25	2.40	Ala.	2.45	2.45
N. J.	2.85	2.45	Miss.	2.90	2.75
Pa.	2.00	2.30	Ark.	2.50	1.85
Ohio	2.60	2.45	La.	3.30	3.10
Ind.	2.25	2.45	Okla.	2.60	2.10
Ill.	1.70	2.20	Tex.	3.30	2.45
Mich.	1.75	2.05	Idaho	1.60	2.60
Mo.	2.75	2.45	Colo.	2.30	2.70
Kans.	2.30	2.50	N. Mex.	2.00	3.00
Del.	2.40	2.35	Utah	1.80	2.40
Md.	2.20	2.55	Wash.	1.55	1.65
Va.	1.75	2.10	Ore.	2.50	2.80
W. Va.	1.85	1.95	Calif.	1.73	1.43
N. C.	1.95	2.80	Cling	1.57	1.33
S. C.	2.70	2.30	Free	1.99	1.64



GRAPES

THE BOOM IS OVER IN CALIFORNIA

By A. J. WINKLER

University of California

THE primary problem of the California grape industry in 1953 was over-production which was aggravated somewhat by unfavorably cool weather. During the war years profits for all types and qualities of grapes were high, and the industry put to use cultural operations that resulted in higher and higher yields per acre. Following the war, markets were and still are restricted by trade barriers and economic conditions; there are too many grapes. Grower costs, too, have risen faster than their returns, so they have found themselves obliged to maintain a high yield per unit area. The thinking, all too generally, has been geared entirely to how much can be produced per acre with little or no thought being given to the suitability of the grapes grown for the use to which they are to be put. This trend has been encouraged by the policy of the larger wineries to buy solely on the basis of degree Balling and of the raisin processors to take all raisins delivered without regard for quality.

Huge Crops

These practices have led to a series of the heaviest crops in history, namely, 3,228,000 tons in 1951; 2,976,000 tons in 1952; and 2,578,000 tons* in 1953. The 1951 crop was the largest of all times. It followed two years of moderate crops (restricted by frost and other causes). The 1952 crop was lower owing to lessened vigor of the vines. The 1953 crop was only moderate, yet an overcrop because of weaker vines. Vine growth and leaf surface were definitely down in 1953, especially in the raisin varieties. Owing to the smaller leaf surface and, in part, the cool season the fruit was slow in maturing. Much of it never did attain normal maturity.

Table Grapes Fared Best

Despite the moderate crop in 1953, prices were only a little better than in the two previous years. The table grape deal was by far the best with prices, on the average, well above 1952. With the recent strengthening of the raisin market it appears that raisins will be next best and grapes for wine poorest.

Encouraging Trends

As we approach the end of the year, the grape picture appears to brighten a bit. Impetus has been given to the drives for improvement in quality. The move for a maximum in the Balling-acid ratio of wine grapes is gaining momentum. Likewise, there is a definite desire on the part of certain elements of the raisin industry to establish standards for raisins. These trends together with the fact that more and better thinning was done on all table varieties in 1953 than in any previous year and the present outlook for only a moderate crop offer encouragement for 1954.

*Preliminary

INCREASED PRODUCTION OF NATIVE GRAPES

By JOHN P. TOMKINS

Washington State College

PRELIMINARY estimates of the 1953 production of native grapes indicate a 10 to 15 per cent increase over the 1952 production. This increase in production was due in part to favorable weather during the fall, winter, and spring of 1952–53.

PRODUCTION—Thousand Tons—All Varieties

	California	Other States
Average: 1942–51	2,695	179
1951	3,228	162
1952	2,976	197
1953*	2,557	192

On the other hand, the "usual growing season hazards" occurred as follows: A late spring freeze reduced the Arkansas-Missouri crop by approximately 80 per cent; a June hail storm along the New York-Pennsylvania border reduced the crop in a small area by approximately 70 per cent; 2,4-D caused much foliage injury in Washington—especially in vineyards in the Kennewick area; a prolonged drought in Michigan drastically reduced wood growth and caused some reduction in crop.

Quality Good

Quality of the crop was good. However, early in the harvest season many clusters showed more immature berries than was typical of the various varieties. The harvest season was rather late.

Prices paid for the 1953 crop will not be determined until well into 1954 because a large portion of it is marketed through co-operatives. Many growers anticipate about the same price as they received in 1952.

A large number of native grapes are used by eastern wine cellars. The bulk of the wines are manufactured from Elvira, Catawba, Delaware, Niagara, and Concord grapes. Many other varieties are used on a less extensive scale. The production of the "variety wines" has been a boost to some of these varieties. Eastern wineries are very much interested in the wine-making qualities of several of the imported Seibels, Seyve Villards and the Baco No. 1.

Eastern wine grapes found an active market this year. This is in sharp contrast to 1952 when many Catawba growers were unable to locate a ready buyer.

New Varieties Available

Many new varieties of native grapes are available for the home gardener. Unfortunately, many people still persist in growing those varieties which were obsolete many years ago. The new varieties are usually not planted on commercial scale because native grapes are poor shippers. THE END

PLUMS and PRUNES

Promotion and new marketing outlets are gaining consumer attention for the Princess of Fruits

By ANTON S. HORN

University of Idaho

IT is generally recognized that the apple is king of fruits; the peach, queen; and a good fresh prune or plum is certainly a princess.

The Italian prune, also called Fellenberg, is the principal variety grown in Washington, Oregon, and Idaho. Washington and Oregon produce some Santa Rosa, and Idaho has a small acreage of President. In former years, Presidents brought higher prices than did Italian prunes. However, in the last three years, in general, good Italians have sold for the same price as Presidents on the auction, and sometimes have even brought a little more.

PRODUCTION
PLUMS—Tons

	California	Michigan
Average: 1942–51	81,600	4,950
1951	97,000	4,800
1952	53,000	7,800
1953	86,000	6,400

PRUNES—Tons

	California	Washington	Oregon	Idaho
Average: 1942–1951	456,500	22,040	70,110	21,680
1951	442,500	13,600	59,800	22,000
1952	337,500	16,900	45,100	23,800
1953	350,000	20,000	48,900	19,500

Promotion

Idaho's fruit is advertised through the grower-supported state Prune Advertising Commission. The objectives of the commission are, first, to increase consumption and, second, to broaden distribution by opening new markets for fresh prunes. Washington prunes are promoted through the Washington State Fruit Commission.

Plums and prunes are used mainly for fresh consumption in California and in central and eastern states. Main varieties include Beauty, Santa Rosa, Duarte, President, Tragedy, Wickson, Burbank, and Kelsey. Districts shipping are principally the San Joaquin Valley, Placer District, and Sacramento Valley.

Dried Prune Production

Production of dried prunes in California in 1953 was estimated at 140,000 tons, about four per cent larger than 1952. In Oregon, production in 1953 was 3,200 tons, 33 per cent larger. This was the second successive year of a small dried prune crop; and if weather is favorable in 1954, an increase over 1953 can be expected even though bearing acreage has declined a little more than one-fourth in the last 10 years.

Exports of dried prunes in 1953–54 may be slightly larger than in 1952–53 if the necessary foreign exchange arrangements can be made in the principal importing countries.

Prices

Prices at Milton-Freewater, Walla Walla, and Yakima were good for early varieties of prunes such as Demeris and Weatherspoon. Prices for Italian prunes in receiving markets from those areas were low in 1953, running close to $1.25.

Because the price was low in these areas, the Italian prunes started at around $1.50 in Idaho. As the season progressed the market advanced to $1.85 and $1.95 for occasional cars. Probably the season average could be estimated at $1.75 a half bushel.

There was scattered hail damage, and it was one of those years when weather was unfavorable. There was quite a bit of shrivel at the stem end, deep suture, and a high percentage of doubles. Drop was heavier and occurred longer.

Canned Tonnage

Oregon canned 15,600 tons in 1953, 18,000 in 1952, and their 1942–51 average is 20,570. Washington canned 3,700 tons in 1953, 5,690 in 1952, and their 10-year average for 1942–51 is 6,194 Idaho's 10-year average for 1942–51 is only 750 tons; 1952 prunes canned totaled 1,800; and during 1953, 1,700 tons.

New Outlets

Frozen prunes are an excellent product. This year, Washington froze 280 tons and Oregon 1,400.

Dried prune juices are readily available on the market, and from all appearances there should be a sale for fresh prune juices. The California Experiment Station has developed a fresh prune juice, and prune nectar, made from fresh Italian prunes, is also very good. Further research on prune juices is underway at Western Regional Laboratories, Albany, Calif. THE END

BLOSSOM *and* HARVEST QUEENS

THE FRUIT INDUSTRY'S GOOD WILL AMBASSADORS DURING 1953

Marion Ette, Florida Citrus Exposition Queen.

Shenandoah Apple Blossom Queen Kathryn Eisenhower.

California Orange Show Queen Donelia Dooley.

Illinois Fruit Queen Bonnie Bunch

National Cherry Festival Queen Everil Meloche of Michigan.

National Cranberry Queen Lee Saunders of Massachusetts.

Ohio Grape Festival Queen Sonya Market.

Queen Elberta XII Sue Patterson of Arkansas.

Minnesota Raspberry Queen Rosemary Quinn of Hopkins.

Maine Apple Queen Patricia Ann Casey.

Queen of 34th Washington State Apple Blossom Festival Carolyn Ellis (now Mrs. Larry Richardson).

Darlene Powell, Lebanon, Ore., Strawberry Queen.

1953's New FRUIT VARIETIES

Keep up-to-date on new fruits. Choice of variety can mean the difference between success and failure

By REID M. BROOKS and H. P. OLMO

University of California

Shown above is the winter-hardy tart cherry named Meteor introduced by the University of Minnesota Fruit Breeding Farm at Excelsior and offered commercially by Andrews Nursery Co., Faribault, Minn.

IN this modern age of fruit growing, the grower's choice of the right variety more than ever means the difference between success or failure. Many fruit growers formerly content to stay with the older and well-proven varieties now feel that a limited testing of promising new varieties is necessary to keep abreast of the developments in fruit breeding and to stay in a good position with their competitors. The interchange of information on new varieties now spreads rapidly in orchard forums and grower tours.

Keeping abreast of this significant trend, the *Register of New Fruit and Nut Varieties* now reaches its tenth anniversary in reporting the essential information on new varieties as soon as possible. Annual lists are published in the *Proceedings of the American Society for Horticultural Science*. A summary covering the period 1920–1950 has been published in book form by the University of California Press, Berkeley, Calif., and includes 1,106 new varieties.

The Register is a co-operative effort of over 80 prominent horticulturists, representing all parts of the United States and southern Canada. The present list is abstracted from recent lists of the Register, most of the varieties having been introduced during 1953.

ALMOND

Davey originated in Davis, Calif., by the late Prof. Arthur E. Davey (for whom the variety was named), California Agricultural Experiment Station, and Milo N. Wood, USDA. Introduced commercially September 1, 1952. Its parents are Nonpareil and Sans Faute. Kernels are attractive and light-colored, resembling those of Nonpareil; shells are thin and complete, resembling those of IXL. Of Nonpareil quality. Tree is vigorous and upright. Bloom occurs with Nonpareil and can be used as a pollinator for it, being superior to other varieties now used for that purpose. Tree yields well.

APPLE

Custer was originated by W. P. Baird, U.S. Northern Great Plains Field Station, Mandan, N. D. Introduced to the trade in 1952. Red Siberian and Wealthy were crossed to give this variety. Fruit is small, striped red on a greenish-yellow ground color; sweet and pleasant to eat, ripening latter part of August or first of September. Most nearly resembles Roselin. Tree is very hardy, medium upright, and prolific.

Heart River was also produced by W. P. Baird, but the parents are Dolgo and Duchess of Oldenburg. This is a crab apple, with a red skin and yellow, firm, juicy, subacid flesh. Tree is very hardy. Commercially introduced in 1952.

Ohlson was introduced commercially in 1951 by E. A. Ohlson, Puyallup, Wash., the originator. Fruit is large, having a crisp, juicy flesh; core is small and closed.

Prairie Gold is a hardy, large crab or small standard apple variety produced by crossing Robin crab with Duchess of Oldenburg. Yellow skin encloses a juicy, slightly tart, pleasantly flavored flesh. Tree is semidwarf, spreading, and very hardy. W. P. Baird, U.S. Northern Great Plains Field Station, Mandan, N. D., is the originator, introducing it in 1952.

Royal-Red Delicious is a 1952 introduction by Columbia & Okanogan Nursery Company, Wenatchee, Wash. A patent has been applied for. It is a bud sport of Richared Delicious which it most resembles, but with more color that appears earlier in the season.

Ruby is a 1953 introduction from Ohio Agricultural Experiment Station, Wooster, resulting from the cross Gallia Beauty x Starking. Fruit is large, of high color, and with a late-winter season keeps well in storage. Excellent for cooking and of fair dessert quality. Tree blooms late, is apparently productive at an early age.

Stephens is another introduction made, in 1952, by W. P. Baird, Mandan, N. D. This open-pollinated seedling of Wealthy, selected in 1927, bears fruit of medium size, with a skin striped with red on a greenish-yellow ground color. Flesh is subacid to sweet, with a pleasant flavor. Tree is hardy.

AVOCADO

Olivia originated in Leucadia, Calif., from unknown parentage, and was selected in 1949 by H. E. Kemp and Olivia R. Kemp as being worthy of commercial introduction in 1952. It is of the Guatemalan race. Fruit averages about 8½ ounces. Skin is green, medium pebbled, and peels easily. Flavor is good, with an average oil content of 24.5 per cent. Matures during August and September at place of origin. Tree is upright and quite hardy.

BLUEBERRY

Bluecrop was originated by F. V. Coville and O. M. Freeman, USDA and New Jersey Agricultural Experiment Station, Weymouth, N. J. Result of crossing (Jersey x Pioneer) x (Stanley x June); selection of this variety made in 1941 by J. H. Clarke, then of the New Jersey station, and George M. Darrow, USDA. Fruit clusters are large and medium loose; color of the berries is a very light blue. They are very firm, subacid, with a good flavor, and moderately aromatic. Ripens in midseason. Bush is upright, vigorous, and a very consistent producer. Introduced commercially in 1952.

Earliblue is another variety which originated in New Jersey by the same men as noted for Bluecrop, but its parents are Stanley and Weymouth. Berries are a light blue, very firm, subacid, moderately aromatic, and with a good flavor. Season is early. Bush is upright, vigorous, and well shaped. Introduced commercially in December, 1952.

Gem is a patented variety (1,181), originated by H. E. Drew, Gate, Wash. Result of a cross between Rancocas and June, made in 1943 and selected in 1949. Fruit is of medium size, dark blue, firm and crisp, with a slight aroma; ripens in early midseason. Principal distinguishing characteristic is that all berries ripen virtually at same time, within two or three days, yet remain in good condition on the bush for two weeks or more. Introduced commercially in 1952.

Herbert resulted from crossing Stanley with a seedling resulting from the cross Jersey x Pioneer, and originated in Weymouth, N. J. Fruit clusters are loose. Berries ripen about same time as those of Jersey, Rubel, and Dixi, being earlier than Coville and later than Berkeley. Berries do not run down in size so much as do those of Dixi and Jersey; color is same as for Jersey, Rubel, and Dixi. Flavor is equal to the best varieties. Berries are resistant to cracking, firm, and hang well on the bush which flowers late and is consistently productive. Introduced in December, 1952.

Suitable for regions having a mild climate, Springtime is an early ripening yellow-fleshed freestone variety of peach introduced by Armstrong Nurseries, Inc., Ontario, Calif.

CHERRY

Meteor is a 1952 introduction of University of Minnesota Fruit Breeding Farm, Excelsior, and offered commercially by Andrews Nursery Company, Faribault, Minn. Result of crossing Montmorency with a selection of a Russian type tracing back through two or more generations to varieties Vladimir and Shubianca. Fruit is sour, with size, appearance, and quality of Montmorency. Tree is very winter hardy.

CURRANT

Consort is a Canadian introduction, originating in Division of Horticulture, Central Experimental Farm, Ottawa, Ontario, and introduced commercially in 1952. Kerry was crossed with *Ribes ussuriense* to give this variety. Fruit is black. Plant is immune from rust and self-fruitful, thus not requiring insect pollination.

GRAPE

Dallas is a Muscadine type, extremely large (being over an inch in diameter), with a reddish-black skin. Quality is good. Matures in midseason, hangs well on the vine. Originated in Dallas County, Alabama, on farm of W. K. Campbell. Introduced last year by Dalco Nursery, Selma, Ala.

NECTARINE

Cavalier was introduced in 1952 by Virginia Agricultural Experiment Station, Blacksburg, where it originated. Its parentage: (P. I. 43143 x an unnamed V. P. I. peach seedling) x self. A firm, yellow-fleshed freestone. Skin is red and yellow, attractive, with a good finish. Fruit averages two inches in diameter, matures about eight days before Elberta peach. Most nearly resembles Garden State except that it is more ovate in shape. Under conditions at Blacksburg, it has shown outstanding ability to escape infection by brown rot. Flowers are showy. Tree is vigorous and productive.

Freedom is an origination of F. W. Anderson, Le Grand, Calif. Introduced commercially August 6, 1951. Bears patent 1,161 dated January 13, 1953; assigned to Thomas B. Stribling, Jr., Stribling's Nurseries, Merced, Calif. Result of a cross between Le Grand and Bim x Kim. Flesh is golden yellow, freestone, firm, juicy, and with excellent flavor. Fruit is very large with highly colored skin. Good for shipping, canning, and dessert use. Ripens a few days earlier than Quetta and Le Grand.

Jordana bears patent 1,096 dated May 13, 1953; assigned to John M. Garabedian, Fresno, Calif. William T. Kirkman, Jr., Madera, Calif., is the originator. Parentage is unknown. Flesh is white, clingstone, and firm, with good quality and subacid flavor. Skin has yellowish ground color blushed with red on sunny side; it is tough, somewhat astringent, and with smoother finish than Quetta. Ripens four to five weeks later than Quetta. Size is large to medium. Introduced commercially in 1950.

Liberty originated in Le Grand, Calif., by F. W. Anderson. Introduced commercially in 1952. Yellow flesh is firm and freestone. Skin is almost completely red at shipping ripeness. Resembles Sun Grand but ripens about a month later, around August 10 at place of origin. Bears patent 1,160 dated January 13, 1953; assigned to Kim Brothers, Reedley Nursery Co., Reedley, Calif. It is an F_2 generation seedling of Kim x July Elberta.

Merrill Casa Linda is another of Grant Merrill's introductions from Red Bluff, Calif., being introduced in 1953. It is an F_3 open pollinated seedling of J. H. Hale x Quetta. Flesh is white, freestone, with very good flavor; size is large; appearance is attractive. Recommended only for home orchards as it is too soft for long-distance shipment.

Merrill Sunrise, also a Grant Merrill introduction (January, 1953,) has yellow flesh which is semifreestone when soft ripe. Skin is nearly completely red. An open pollinated seedling of F_2 J. H. Hale peach x Flaming Gold. Ripens 10 days earlier than John Rivers.

Redchief originated in Blacksburg, Va., by Virginia Agricultural Experiment Station. Introduced commercially August 20, 1952. Flesh is white, freestone, firm, with good quality. Fruit is nearly round with halves tending to be unequal; averages about two inches in diameter. Skin is bright attractive red, usually extending over entire surface. Redchief keeps well in cold storage, matures 10 days before Elberta. At Blacksburg it has shown outstanding ability to escape infection by brown rot. Most nearly resembles Nectaheart. Flowers are showy.

Royal Flame ripens about July 10, or about one week earlier than Flaming Gold, at Fowler, Calif., where it was originated by H. E. and R. K. Hiraoka. Introduced commercially in 1951. An open pollinated seedling of Flaming Gold. Yellow flesh is freestone, firmer than its known parent. Size is medium to large. Most nearly resembles Flaming Gold but with a little less color.

PEACH

Blake was named in honor of the late Prof. M. A. Blake of New Jersey Agricultural Experiment Station, New Brunswick. Prof. Blake originated this variety by crossing J. H. Hale with Primrose. Fruit ripens one week before Elberta. Yellow flesh is freestone, firm, with good quick-freezing quality.

Bobolink was produced by Herbert C. Swim, Armstrong Nurseries, Ontario, Calif. Granted patent 1,150 on November 20, 1951, and assigned to Armstrong Nurseries. Its parentage is: (an unnamed seedling of Gold Mine nectarine x Rio Oso Gem) x (an unnamed seedling of Gold Mine nectarine x July Elberta). Fruit has fine flavor with good balance of acid and sugar. Flesh is yellow and freestone, ripens before July Elberta. Tree has shorter winter chilling requirement than any other yellow-fleshed freestone peach having similar ripening period to that of July Elberta, making it especially adapted for southern California conditions.

Coronet was introduced in June, 1953, from USDA breeding project carried on by John H. Weinberger, Fort Valley, Ga. Recommended for trial planting to replace Dixie Gem. Firm yellow peach with melting flesh, nearly freestone when fully ripe. A variety that should attract the consumer eye, having attractive red blush over yellow brown color. Tree is self fruitful, vigorous, and productive, but just about as susceptible to bacterial spot

(Continued on page 43)

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American Fruit Grower
WESTERN SECTION

New Outlets for WEST COAST FRUITS

Tempting new fruit products can change surplus into shortage in a surprisingly short time

By W. V. CRUESS
University of California

TROUBLESOME surpluses of certain western fruits have occurred in recent years. It may be a case of under-consumption, rather than over-production, as the experience of the citrus fruit industry with frozen concentrates strongly indicates. A few years ago there was an apparent over-production of oranges. The fresh markets and the canned juice establishments failed to take much of the crop at a decent profit to the grower. Then frozen concentrate was developed in Florida and its production rapidly spread to California. No fruit product has ever taken on with the consuming public so rapidly.

Production of frozen orange concentrate this year is expected to approach 60 million gallons, equivalent to over one billion six-ounce cans of this product. In 1945-46 it was only 226,000 gallons.

At present all of the "slack" or surplus in orange production has been taken up by this new product. The same is essentially true for frozen lemon concentrate and frozen lemonade syrup. These new processed fruit outlets show what can be done if the right product is found and aggressively merchandised.

A few years ago the Gravenstein apple industry was having great difficulty selling its crop in the fresh markets at a profit. A small beginning was made by the Barlow Brothers in packing canned Gravenstein sauce. It rapidly became a success and now several large sauce canneries are in operation in the Sebastopol area with most of the crop being thus utilized.

At present the California Raisin Advisory Board, with the co-operation of several research laboratories and market survey and development agencies, is trying to find and introduce on the market one or more new raisin products that might relieve the present surplus situation.

In the Food Technology Department of the University of California at Davis, Dr. E. M. Mrak and John Schierbeck have developed a process in which Thompson Seedless raisins are brought to about 30 per cent moisture content, at which they are rather plump, tender in texture and excellent for eating out of hand. These raisins are very popular with children. The product is packed in small plastic bags and sterilized in the bags with propylene oxide or other suitable fumigant. After exerting its sterilizing action the fumigant escapes by volatilization. A small commercial scale packing test is under way.

We would appreciate comment on the various products Dr. Cruess mentions from fruit growers' wives. The ladies decide what to buy and their advice on these new fruit dishes might be worth a million dollars.—Ed.

At the University of California at Berkeley, Damian Musco, Roy Binder, myself, and others have been conducting experiments on other uses for raisins. One of the most promising is the packaging of raisins with or their addition in the home to quick cooking rice. The two blend perfectly and cook in about the same time.

Another very promising outlet is in the packing of quick cooking starch base pudding mixes with raisins or their addition at time of cooking. These puddings for home use have become very popular; raisins add greatly to their appearance and flavor without increasing their cost.

Another excellent product is hot cakes containing raisins. The raisins may be added at the time of cooking or may be packaged with the hot cake flour. Brown-and-serve rolls with raisins are very attractive in flavor and appearance.

We have successfully made breakfast flakes and shred cereals containing dried ground fruits, notably raisins, prunes, and figs. One large cereal company, National Oats Company of Cedar Rapids, Iowa, is successfully packing seedless raisins in its Raisin Oats. The mixture is cooked and served in the same manner as plain rolled oats. We have developed several very good raisin candies suitable for making a five or 10-cent candy bar and containing up to 50 per cent raisins.

Other possibilities with raisins are a table syrup; a syrup for bakers' use; canned raisins for sale in the tropics or during the hot humid summer

Olallie Berry

FAR OUTYIELDS BOYSEN

In Riverside County outyielded **Boysen** 2½ to 1; in Orange County yielded 15 tons per acre; in Santa Barbara yielded 3 times as much as a much larger planting of Boysens, and was 5 weeks earlier than Boysen, first picking last week in April, early pickings brought $5 per tray, with no other berries on market but strawberries. Crop continued after Boysens were gone.

Olallie is resistant to verticillium wilt and sunscald to which Boysen is subject, seems to stand more cold than Boysen, Kayberry, etc., withstands adverse soil conditions far better than Boysens, raspberries, strawberries, etc. Berries easy to pick, firmer and better keepers and shippers than Boysen, good fresh and well adapted to freezing, canning, etc.

A Seattle grower wrote: **"Your Olallie berry is the finest blackberry I have ever grown, and on account of its habits I thoroughly enjoy picking them."**

Prices of plants: 10, $4 postpaid; 100, $17.50; 1,000, $125 FOB. Limited quantity.

Sparkle Red Raspberry

This is an outstanding new raspberry. It is of very fine flavor, bright light red color, larger than Bonanza and 4 times the yield and brings more money. Spring and fall crop.

Limited quantity. 5, $3.50; 10, $6, postpaid.

Red Rich Strawberry

Everbearing. Several pages of high praise from all over the West in our catalog.

Prices of plants: 12, $2.95; 25, $5; 50, $8.50; 100, $15; postpaid.
California customers add sales tax.

Write for illustrated, descriptive catalog of strawberries, caneberries, grapes, fruit trees, flowering plants, Ra-Pid-Gro-wonder fertilizer, etc.

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Books For Your Orchard Library

DWARF FRUIT TREES
By Lawrence Southwick
A complete description of the selection, planting and cultivation of dwarf fruit trees. $2.50

HOW TO MAKE A LIVING IN THE COUNTRY
By Fred Tyler
Ninety-six pages of ideas for making a living in the country. The eight pages on roadside marketing are worth the price of the book. $1.00

WESTERN FRUIT GARDENING
By Reid M. Brooks and Claron O. Hesse
A handbook for the home gardener on fruit varieties; climatic adaptations; soil, water, and nutrient requirements; pruning and propagation; control of diseases and pests. $4.50

THE FUNDAMENTALS OF FRUIT PRODUCTION
New Third Edition
By Gardner, Bradford and Hooker, Jr.
This new third edition brings up-to-date the latest findings in modern fruit production. Two new sections of vital importance to plant culture today have been included—Light Relations and Growth Regulators. $9.00

Sent postpaid on receipt of remittance

AMERICAN FRUIT GROWER
Willoughby, Ohio

months in the Midwest, South, and East, when the carton pack is subject to infestation and spoilage; a canned raisin plus apple pie mix; a canned raisin sauce for serving with meats; and a canned raisin sandwich spread.

The Western Regional Research Laboratory at Albany, Calif., has perfected a procedure for making a highly flavored frozen pack apple concentrate which can be diluted to juice strength at serving. A commercial scale sales test is underway.

Our experiments show that a frozen prune concentrate made by low temperature, high vacuum concentration such as is used in making citrus concentrates should have great possibilities as a breakfast beverage. First a water extract is made from dried prunes. The procedure is simple and uses existing equipment and the retail marketing facilities for frozen foods. It would provide variety in fruit beverages for breakfast use. It is of superior flavor, superior color, and of fruity aroma. Its cost would be low in comparison with citrus concentrates.

Perhaps berries in addition to their present outlets in the fresh market for sale as frozen and berries and for use in preserves and jellies would find favor if sieved, sweetened, and stabilized with pectin or other colloid and frozen for sale as a dessert. The Western Regional Research Laboratory has developed an excellent procedure for preparing these products but as yet it has not been promoted commercially.

The olive industry has during the last year put on an effective advertising campaign for "olive-tuna ring," an entree dish to be made in the home with ripe olives, canned tuna, and Pet milk. Pet milk and the tuna canners helped out in the campaign.

Smoked Olives

At the university we have prepared and canned smoked pitted ripe olives to provide the consumer with a novel and tasty new product. It goes well in salads or as an appetizer. There has been considerable interest in it but thus far none has been packed commercially. Smoked chopped olives, canned for use in sandwiches and salads, etc., is another promising product.

We have not done much with new pear products in recent years. Canned baked pears are good for dessert and save the housewife much work but are not packed commercially at present. Pears cut in Julienne strips and canned in medium syrup are good in salads, gelatin desserts, on cereals, etc. We have packed them experimentally. Crushed pears canned á la crushed pineapple make a tasty and useful base for many kinds of desserts including home-made frozen desserts.

Dried prunes and dried figs are being packed commercially at high (30 per cent) moisture content by the Mrak and Phaff procedure developed at the University of California. The fruit is heated in water to bring it to 30 per cent moisture content and then packed in Pliofilm or cellophane bags. A small amount of propylene oxide or other volatile fumigant is added and then the pack is sealed tightly. The fumigant sterilizes the fruit and then volatilizes through the plastic bag. These fruits are excellent for eating out of hand and cook very quickly if they are to be stewed before serving.

A modification of this procedure is to pack the high moisture fruit scalding hot in key-top cans.

We have found that walnuts may be smoked successfully and readily. The kippered or smoked salted nuts are excellent for serving as an appetizer or as between meal tidbits. R. M. McCoy is packing them on a small commercial scale to test their sales appeal.

Other New Products

Other new and more or less new products that merit consideration are:

a) Canned sieved fruits, particularly peach, apricot, prune and date, for use in ice cream, sherbet, milk shakes, puddings, open face pies, etc.

b) Julienne strip style cling peaches canned in medium syrup for use in salads, pies, on breakfast cereals, etc.

c) Candies made with dried fruits.

d) Carbonated blended beverages made of "juices" of raisins, prunes or dried figs, preferably blended with Cola or ginger ale at time of bottling or canning.

e) Vacuum dried fruit "nuggets" and powders produced commercially by the Vacu-Dry Corporation of Oakland, Calif.

f) A new canned "desert juice" consisting of a blend of an extract of California dates and California grapefruit juice, both fruits grown in the famous desert Coachella Valley of California.

By way of summary we would point out again the tremendous success of frozen citrus concentrates and repeat our firm belief that other fruit industries could "go and do likewise", if they were to discover the most suitable products and promote them as effectively as has the citrus industry promoted their product. THE END

Read the advertisements and remember advertisers will be glad to send you catalogs, specifications, and prices. Be sure to say you saw it in Western Section AMERICAN FRUIT GROWER.

WESTERN SECTION

SUCCESS IN WESTERN ORCHARDING

By FRED KIRKWOOD

As told to Harold and Lillie Larsen

There is a right way and a wrong way to do anything, but veteran grower Fred Kirkwood finds pleasure and profit in growing cherries as right as he can figure out how.—Ed.

CHERRY orchards, if taken care of properly, will live to be quite an age. I planted my orchard in 1925 and while I've made a lot of mistakes and tried a lot of things the orchard still does pretty good.

My daughter, Mrs. F. G. Doughtry tells me the trees are good for at least another 25 years. She comes up from her home at Eugene every year to supervise the harvest. That's been her job from the beginning.

While I no longer live on the farm (Mr. Kirkwood has a lovely home in Salem, Oregon's residential district) every day during harvest and a lot of days in between I drive out to the orchards, which lie about eight miles toward Hopewell in the Polk County Hills. I've owned this farm for more than 50 years and I like the trees taken care of just so. My grandson, Larry Imlah, lives on the place and looks after the orchard.

Our old land donation claim, taken out by my father, Joseph Kirkwood, in the middle of last century, lies just over the ridge of the hill, practically adjoining my present farm. I grew up in the neighborhood and got acquainted with the soil from the beginning.

THERE ARE 23 acres in the orchard. In 1952, when the trees were 27 years old we harvested 180 tons from the 23 acres and there was a lot of fruit left on the trees for neighbors and friends. In 1953, the set wasn't so good—too big a crop in 1952—but we took off 79 tons. The bud spurs are looking beautiful this winter—if nothing happens we'll have an excellent crop in the 1954 harvest.

The trees are Royal Annes and Hoskins. The pollinizers are grafted into about 25 per cent of the trees. I did most of the grafting myself, using a small wild cherry scion. But that isn't the only pollinizer I use. Each spring, just before the cherry blossoms open, bees are brought in. During the past season I used 80 colonies and these stayed in the orchard until the petals began to fall.

When we first had the orchard, I plowed. Guess I did it for a couple of years. Then I found out that this was really "plowman's folly". Now I just disk the cover crop in.

Into the ground, before the cover crops, goes 400 pounds of 8-16-10 fertilizer per acre. I've been following the same program, using 8-16-10, for about six or seven years. The leaves are a dark green and there are a lot of them. That's one reason, I think, why I don't have such an awful lot of cracked cherries. That heavy foliage protects them from too much moisture.

Sometimes, I use peas and sometimes hairy vetch, but I like the Austrian Field peas best for a cover crop. Some years peas won't grow so good, though, and then I use the vetch.

Now here's one of the things some folk disagree with me about: The time to disk in. Some set May 1, rain or shine as the disking time.

I just can't do it according to the day. I like to do it according to the cherries. This is usually when the cherries are firmly set and about the size of peas.

EVER HAVE a crop failure? Why, yes, in 1947 when that awfully heavy rain came just as the cherries were ready to pick—even had the ladders in the orchards—then the deluge came. We just let people come in and just pick all they wanted—there was a good crop but it would have been awful to commercial-harvest.

Spray? Oh, yes, very much so, only it's dusting. We dust for the beetle when blossoms begin to fall, dusting all the outside trees and along all the fence rows. For this we use DDT. Then for the cherry fly—well, we dusted six times last year. Used a helicopter and it cost $200 each time. We still find that arsenate of lead is the best fly control. Use it at the rate of 50 pounds to the acre.

Costs a lot to grow a crop? Well, yes, but harvesting it isn't a little bill either. In 1952, when we had that big crop our picking bill was $11,000. We figure about $80 a ton picking cost—4 cents a pound.

Pruning? We just don't do any "regular" pruning. At picking time we sometimes cut a fork and lay the branch over if the tree is too tall. After harvest, we cut off the branch right in the crouch.

While in the majority of orchards picking is still done by the pound, we've changed to paying by the box. It saves a lot of weighing and bookkeeping. The boxes, when filled, weigh about 29 pounds and the pickers received 90 cents a piece for these last year, with an additional 15-cent bonus if they stayed throughout the season.

No—no matter if one is getting a little up in years, it's still fun to grow things and it's still fun to grow them right—as right as you can figure out how. THE END

WESTERN SECTION

Pacific

NEWS AND VIEWS

Lemon Bonanza

California citrus growers are reaping a bonanza as the result of a new product—frozen lemonade concentrate. Sunkist introduced frozen lemonade concentrate in 1950 and expects to sell 10 million cases in 1954. In the same period the sale of fresh lemons also has increased, so frozen lemonade has had a beneficial all-around effect.

Latest idea in soil items is a "soil detergent" produced by the Atlantic Refining Company. The new substance, which is not a conditioner, increases the ability of the soil to absorb water. It is less expensive than soil conditioners and does not have to be worked into the soil.

Is there a profit in harvesting second crop Marshall strawberries? The Banks Frozen Foods Company in Forest Grove, Ore., paid 16 cents a pound for late crop berries supplied by Carl Pierson, Hillsboro; Leon Hubbard, Banks; Richard Spangler, Banks; and Melvin Oberg, Forest Grove. The growers considered this amount as clear profit, for picking and topping the plants is routine work.

Iron Citrate

Iron citrate pellets injected into pear trees as a treatment for yellow foliage has proven effective over a four-year period in some California orchards.

Joe Green of Courtland had this chlorotic condition four years ago in a large area of his orchard where some of his best production had been obtained. The fruit was inferior, the yield down. During the fall and winter he injected the pellets by boring holes in the trees, inserting the pellets, and plugging the holes. The following year the trees were normal. Now, after four years, the condition is beginning to show again. He will repeat the treatment next year.

Howard C. Peterson, Reedley, Calif., has patented a new variety of peach tree which originated as a bud sport of the well-known Stark Early Elberta. Discovered in his orchard in the San Joaquin Valley, Peterson says his new variety ripens around June 20 to 25. It fulfills a demand for a yellow-fleshed peach ripening between Vetter and Kim Elberta varieties.

Growers planning to try a hormone spray to increase size of Thompson Seedless grapes should get a copy of "A Hormone Spray for Thompson Seedless Grapes" from A. N. Kasimatis, Farm Advisor, 2610 M Street, Bakersfield, Calif.

Florida citrus growers, determined to increase the number of automatic coin-operated dispensers for Florida citrus juices, have hired a Navy captain to pry open the doors to Navy installations everywhere, even aboard warships.

Largest single block of fruit trees in the world is owned by Senator Harry F. Byrd. In one block are 1,056 acres with 42,000 apple trees. All are red bud sports with exception of Golden Delicious.

New common name for malathon is malathion says the Interdepartmental Committee on Pest Control of the USDA. Malathion is sponsored by American Cyanamid Company.

Jim Eggink of Ripon, Calif., started in business for himself in 1949 and now is one of Ripon's up and coming young businessmen. He has developed a method for fast production of kidney-shaped picking buckets using inexpensive sheet metal machinery. An idea of the way his business has grown is shown by the increase in sales from 600 buckets in 1949 to 3,900 in 1951.

New Deal

There is a new deal for fruit exports in the thinking of the USDA. The department will work with the fruit industry in a program to regain and develop export markets. This is a shift in thinking in Washington and credit must go to those who helped mold the new policy including, in the western states, Don Street, Sunkist Growers; Harold Angier, California Grape and Tree Fruit League; F. W. Read, California Fruit Exchange; A. E. Thorpe, Dried Fruit Association of California; Ernest Falk, Northwest Horticultural Council; J. E. Klahre, Apple Growers Association; and J. A. Smith, Gwin, White & Prince.

A photoelectric color sorter for lemons has been developed. The machine sorts lemons into five color categories—yellow, silver B, silver A, light green, and dark green. Inventors are agricultural engineers at Davis, Calif.

Spray Color

Crop King Company of Yakima reports discovery of a substance which may stimulate color development in apples. Search for such a substance has been going on for many years. A color developing spray would be a great boon to the fruit grower.

Reason why fruits have lagged behind vegetables in prepackaging progress was explained recently to package manufacturers by Elon Gilbert, Yakima grower and shipper. Problems in changing over the packing line are big hurdles to overcome, he said. After seven years of attempting to prepackage cherries, he feels that a definite, successful routine was developed in 1953.

Vending Apples

Jake de Graaf, Los Angeles, says that in one week 200 million bars of candy and soda drinks are purchased through coin-operated vending machines. He is attempting to get the apple industry to see the possibilities of increasing consumption of apples through machines such as his Fruit-o-matic.

CALIFORNIA STRAWBERRY LEADERS OF 1953

Representatives of California's strawberry industry who were instrumental in putting the Golden State at the top in berry production in 1953 were:

Front row, from left—Jerry Day of Day & Young, Santa Clara; Ed Hart, manager, Central California Berry Growers Assn.; Ned Driscoll, chairman, Strawberry Institute, San Martin; Louis Rizzoni, first vice-president, California Farm Bureau Federation; Frank Pierce, general secretary, CFBF.

Second row, from left—Frank Steindorf, regional director, CFBF; Bill Goodwin, Davis grower; Masao Nakata, Fresno grower; Fred Hirasuna, manager, Fresno Berry Growers Exchange; Dr. Harold Thomas, Strawberry Institute; Wilton A. Stine, president, County Farm Bureau; Charles Rummel, CFBF attorney; Ken Wilhelm, secretary, County Farm Bureau.

Third row, from left—Don McCulley, secretary-treasurer, CFBF; Dr. Phil Minges, extension specialist; Cruz Venstrom, CFBF deciduous fruit specialist; Harold Esterbrook, president, Central California Berry Growers Assn.; and A. D. Rizzi, California extension deciduous fruit specialist.—F. Hal Higgins.

Keith Moore, Newago County, Michigan, lifts a pallet of 24 crates from orchard trailer to be piled onto the ground awaiting delivery truck.

Fork Lift Cuts Costs

THE fork-lift truck is taking the backache out of fruit harvesting in Michigan's larger orchards. Besides eliminating much hand lifting of crates, the fork-lift truck means more money for the orchardist, the packing house operator, and the processor, according to a study made by J. H. Levin, USDA engineer, and H. P. Gaston, Michigan State College horticulturist.

Their work with the Michigan Agricultural Experiment Station also showed that the lift truck will help maintain fruit quality on its trip to the consumer.

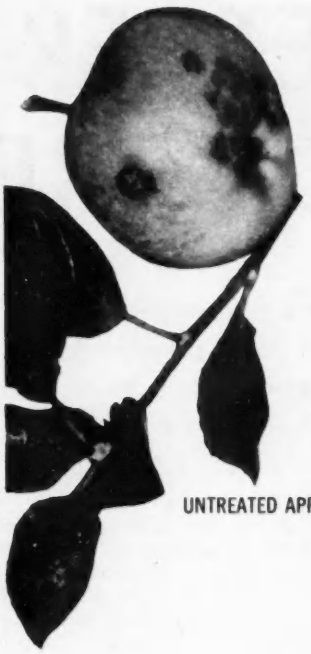
In one instance, a 25,000-bushel apple crop was moved by using a standard lift truck of 2,000-bushel capacity. Part of the harvest went to buyers who unloaded and moved apples by hand and part went to receivers with fork-lift trucks. Lifts were used for unloading filled field crates from orchard trailers, moving and stacking filled field crates, loading and unloading trucks, and handling empty crates.

By using a lift truck to handle the apple crop a grower with a lift and three men did the job which normally required seven men using hand methods.

Cherry Handling

A similar study was made in moving a 300-ton cherry crop on the Rodney Bull farm, Muskegon County, Michigan. One man and a lift did an unloading job in one-fourth the time of three men working by hand. While three men unloaded 100 lugs of cherries by hand in an average of 9.9 minutes, one man and a lift did the job in 1.9 minutes.

Labor costs of loading trucks with cherries by hand averaged 56.5 cents for 100 lugs. By using a lift truck the labor cost was 4.7 cents, a saving of 51.8 cents for 100 lugs. —*John A. Chisholm*



UNTREATED APPLES

More and better apples and peaches with PHYGON®-XL!

TREATED WITH PHYGON-XL, THE ORCHARD FUNGICIDE

Bushels of extra dollars for you!

It costs but a few cents per tree to apply Phygon-XL, for it's the *least expensive organic fungicide* you can use. But more important, you'll market far more #1 apples for far greater profits. Phygon-treated apples ripen more uniformly. You'll have fewer "rejects" because Phygon-XL, when properly applied, gives you almost 100% apple scab control.

Besides apple scab, Phygon-XL effectively controls bitter rot of apples and peaches, California blight of peaches, brown rot and blossom blight of peaches, peach leaf curl and many other fungus diseases. Phygon-XL is simple to apply. It mixes effectively with the most commonly used fungicides and insecticides, is harmless to pollen and bees and does not affect odor or flavor of the fruit.

Order Phygon-XL or formulations containing Phygon from your local supplier today and watch your profits grow.

50th ANNIVERSARY 1904 1954 NAUGATUCK CHEMICAL

Naugatuck Chemical

Division of United States Rubber Company

ELM STREET, NAUGATUCK, CONNECTICUT

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides; Spergon, Phygon, Aramite, Synklor, MH, Alanap.

ALL TOGETHER FOR TREE FOOD

Among forms of plant life the tree is mightiest. Does it not follow that tree food producers should band together to promote their fruits which are the aristocrats in the food field?

By HENRY BAILEY STEVENS

Henry Bailey Stevens is author of the book, Recovery of Culture, *which was reviewed in* AMERICAN FRUIT GROWER, *September, 1951 issue. He also is author of the articles,* Don't Bruise the Help, *which appeared in the May, 1951 issue, and* Next Please the Nuts, *in the April, 1952 issue. He is director of extension at the University of New Hampshire, Durham.*

MORE than nine million of us in this country are living on farms that raised the fruit and nuts tabulated at the last census.[1] We have dared to invest in orchards that cover two and a half million acres and grow a total annual crop of close to a billion dollars.

This use of the land is a long-time commitment, not easily shifted from year to year. Growers of annuals such as the cereals, hay, potatoes, and the garden vegetables can pull rather quickly out of one type of crop and into another. But the man who plants food-bearing trees usually has to wait at least five years before he even begins to realize a cash return; and in many cases he has signed up for life.

Ordinarily we think of ourselves as growers of a particular kind of fruit. The apple man rarely dreams of a joint concern with the citrus man. The walnut grower and the almond grower are likely to consider themselves only as competitors for the consumer's dollar. The institutes and co-operatives which growers have formed are usually restricted to a single commodity.

Such an individual approach is no doubt logical in the main. We tend to think in the same terms as does the consumer, and he wants a specific product —a dozen oranges or five pounds of apples or a package of figs. Yet is this the whole story? Is it not possible that the consumer as well as the grower has an overlapping interest in tree foods per se?

The tree has its own distinctive ability among the forms of plant life. In general its roots go deeper and spread farther than those of the lowly annual or the perennial bush. The individual tree can thus draw needed nutrients from a greater volume of soil. A mature orchard tree easily ranges in the earth for 1,000 cubic feet. South African authorities recommend setting pecans 60 feet apart in squares and report that a water table closer than 10 feet to the surface interferes with root development. If we reckon an average of five feet in depth, this is a total volume of 18,000 cubic feet of soil that the roots of one tree can tap.

It is no disparagement to the enterprise of the ordinary garden vegetable that singly it cannot compete with such permeation. The roots of an onion, for example, will do well to range through five cubic feet; of an asparagus plant, 75; and of a sweet corn stalk 200. By the multiplication of units the grower of field and vegetable crops can perhaps match the root penetration of trees in a given area; but it is at a considerable price of efficiency.

When a drought wilts the potatoes, tree foliage in the orchard usually stays green; for the latter is connected with water levels far below the surface. The tree is not only a mighty engine but a very thorough one. Take, for example, its ability to find trace elements.

In our own orchard a mere half pound of boron spread under the branches of an apple tree every three years prevents cork damage in the fruit; and a similar pattern of procedure has proved feasible elsewhere for pecans, apricots, pears, and plums.

In the same way where deficiencies involving magnesium, zinc, and copper have been discovered, small amounts have corrected the situation. The tree picks up these sprinklings over its ground-spread with uncanny sureness.

An analysis of white oak leaves from various soil types in Illinois, reported in *Soil Science,* indicates that the ability of the roots to forage for nutrients is such that "even soils comparatively low in replaceable bases contain adequate amounts of nutrients for leaf growth." Similarly, a comparison of the nutrient requirements of corn and alfalfa with that of forest trees shows that in changing from the production of trees to these field crops, the demands upon the soil are multiplied from two to 30 times.

(*Continued on page 32*)

[1]Farms reporting tree fruits, nuts, and grapes in 1950 totaled 2,221,381. The national average of 4.34 persons per farm would make the population of these farms total 9,640,794.

See why so many GROWERS PREFER

"Black Leaf"®

253

EFFICIENT · ECONOMICAL COVER SPRAY

BLACK LEAF 253 has won wide acclaim by leading fruit growers. Forward-looking orchardists who have used this amazing, new, multi-purpose summer cover spray quickly discovered that it topped other more complicated and more expensive cover spray programs in TOTAL CLEAN FRUIT.

BLACK LEAF 253 provides simple, easy, one-product control of codling moth, red-banded leafroller, leafhoppers, European red mite, red spider mite, San Jose scale, Forbes scale, and similar pests.

BLACK LEAF 253 is Black Leaf *Tobacco Base* "impregnated" with 25% of DDT and 3% of Parathion by an exclusive process.

DUSTLESS. Black Leaf 253 is scientifically treated to eliminate dust. Just dump it in the water as the spray tank is refilling.

COMPATIBLE. Mixes with all the fungicides and other materials recommended in combination with DDT and Parathion.

LESS RESIDUE. Black Leaf 253 provides excellent control with minimum chemical residue and essentially no visible residue.

STREAMLINE your cover spray program with all-summer use of economical, easy-to-use, highly-effective Black Leaf 253. Full directions on each package. *Write for information.*

VIRGINIA-CAROLINA CHEMICAL CORPORATION
BLACK LEAF PRODUCTS DIVISION
(formerly Tobacco By-Products & Chemical Corporation)
401 E. Main St., Richmond, Va. • 336 N. Queen St., Lancaster, Pa.
1214 Bayshore Highway, San Jose, Calif.

Other Famous Black Leaf® Spray Materials

Black Leaf 40 is the famous volatile nicotine insecticide which provides fast, efficient protection against apple aphids, pecan aphids, walnut aphids and other similar soft-bodied sucking insects. Controls leafhoppers, apple red-bug, most thrips, four-lined leaf bug, psylla, bud moth, pear midge, leaf-miners, pecan phylloxera, pecan nut case-bearer, and similar insects. Black Leaf 40 kills these pests two ways—by contact and by fumes—quickly and economically. Insects controlled by this method do not develop resistant strains.

Black Leaf 40 does not destroy beneficial insects, such as lady bird beetles and their larvae, aphid lion, syrphid fly, chalcid wasp, orius bug, cpyris wasp, braconid wasp and the various egg parasites, and numerous other friendly insects, that attack your insect enemies. Black Leaf 40 also spares bees—the pollenizers.

Black Leaf 40 is non-caustic and does not injure foliage or fruit. It leaves no objectionable residue . . . necessitates no washing of fruits. Black Leaf 40 is compatible with all standard spray materials, ideally suited for use in combination sprays.

Black Leaf 50% DDT is an effective, wettable powder, carefully standardized, well known and widely used to control codling moth, eastern tent caterpillar, Japanese beetle, grape berry moth, rose chafer, Oriental fruit moth, leafhoppers, citrus thrips and similar insects infesting fruit.

Black Leaf Parathion is a DUSTLESS wettable powder, either 15% or 25% Parathion, a special formulation on tobacco material designed to avoid the problem of "dustiness" when filling the spray tank. Highly effective. Controls European red mite, two-spotted mite, Pacific mite, brown almond mite, various species of aphids, plum curculio, flea beetle, leafhoppers, Forbes scale and certain other similar insects. Special precautions are required to protect spray operator. Follow all directions on label and consult local agricultural authorities for information on the proper use of Parathion. Parathion sprays may be applied to fruit up to 14 days before harvest.

Black Leaf 25% Malathion is an excellent wettable powder similar to Parathion but much less hazardous to handle, requiring precautions similar to those recommended when handling DDT. It is effective against European red mite, two-spotted mite, Willamette mite, clover mite, Pacific mite, various species of aphids, Forbes scale, soft scale, pear psylla, grape leafhoppers and mealy bugs. Malathion sprays may be applied to fruit up to 14 days before harvest.

Black Leaf 25% Dieldrin is a carefully standardized wettable powder highly effective for the control of plum curculio and cat-facing insects. Most effective for the control of plum curculio, it is generally recommended for use on peaches, apples, plums and prunes, and locally recommended for certain other sprays. Application should be made during pre-bloom and post-bloom periods, but not after the first cover spray. One pound of 25% Dieldrin wettable powder in 100 gallons of water is recommended.

Black Leaf Forbam Fungicide is a standard fruit fungicide, with a record of excellent disease control . . . top yields and less pre-harvest drop . . . better color, finish, storage life and eating quality . . . and improved vigor of foliage leading to more productive trees. It is particularly effective against apple scab and cedar rust, either used alone or in combination with sulphur fungicides. It also provides excellent control of cherry leaf spot and brown rot; peach leaf curl; pear scab and leaf blight; grape black rot; plum and prune leaf spot and brown rot; raspberry anthracnose, leaf spot and spur blight; strawberry leaf spot and fruit rot; cranberry fruit rot and apricot jacket rot.

Black Leaf 50% TDE is a standard wettable powder particularly desirable as a supplemental spray for the control of red-banded leafroller. Also effective against bud moth, eastern tent caterpillar, Japanese beetle, Oriental fruit moth, tarnished plant bug, leafhoppers and certain other similar insects. Also available as an emulsifiable concentrate.

How To Beat the Labor Shortage!

Mechanized handling with CLARK trucks is a time-tested solution to the labor shortage which is facing growers and processors. And equally important, you'll make more money by drastically reducing costs. Here are some FACTS* about fruit handling with fork trucks:

1. **A 25,000-bushel apple crop was handled at-the-farm with one fork truck and a crew of 3 men; previously required a crew of 7.**
2. **One processor reported that fork trucks on his receiving platform enable 15 men to do the work that formerly required 60.**
3. **In one case in Michigan, the manual-labor cost of loading cherries onto trucks was 56.5c per 100 lugs; when a fork truck handled the same job, the labor cost was 4.7c.**

In addition, fork truck handling has proved that it will reduce bruising, cut grading and packing costs, reduce overtime work, reduce spillage, reduce crate and lug breakage.

Don't pass up this opportunity to eliminate headaches and save big money! Discuss it with your local CLARK dealer—he's listed in the Yellow Pages of your 'phone book, under "Trucks, Industrial."

*These and other interesting facts are contained in a booklet, "Fruit Handling With Fork-Lift Trucks," published by the Michigan State College Agricultural Experimental Station, in cooperation with the U. S. Department of Agriculture. Use the coupon to get a copy.

Industrial Truck Division
CLARK EQUIPMENT COMPANY, Battle Creek 142, Mich.

☐ Please send free booklet on fruit handling.
☐ Please have representative call.

CLARK EQUIPMENT

Name_____
Firm Name_____
Street_____
City_____ Zone____ State____

TREE FOOD

(*Continued from page 30*)

Not only is the tree incomparable in the magnitude of its root system, but its extensive foliage insures equal prowess with sunlight, moisture, and air. Its thousands of leaves work at their job of photosynthesis with a maximum concentration of power. The years that were spent in building the tree's physical framework have made possible a system of intercommunication between earth and air on the grand scale.

The comparative tables of the nutritionist give some hint of the resulting high quality of tree foods. Witness the extraordinary energy, protein, and fat content of the nuts and the rich mineral and vitamin contributions of the fruits. But there is much need for special research. No adequate measure of the supreme palatability of these foods has yet been devised.

One has to watch youngsters at harvest time avidly devour apple after apple or crack nut after nut to realize our primitive hunger for tree products. This is the pragmatic test which the wise nutritionist will do well to take into more account.

Observation of children's reactions can also be reinforced by study of the diet under natural conditions of our primate relatives. There is good reason to believe that nuts and fruit have been the age-old mainstay, bred into our systems from their very genesis millions of years ago when the ancestors of men and the great apes lived in the tree-tops.

Nature's Colorful Packages

Not only is tree food superior in content, but it comes to us direct from the branches in individual packages of marvelous design. Consider the shell of a nut, how tight and compact, how fashioned in wood fiber as substantial as the tree from which it fell. It can defy heat or cold and (with help from the grower) the ravages of insect pests. Cracked at the table it has such freshness that pre-shelling may even do the consumer a disservice!

Or observe the rind of the citrus fruits, how toughly wrought to hold the liquid nectar, yet how beautiful in texture and color. Look at the stout sheath of the banana or the shaded delicacy of the skin of apple or plum, the fuzzy homespun of the peach. This covering will keep the flesh intact for weeks or months; yet once opened in a few minutes it will turn brown from oxidation. In an age that makes a fetish of package service, the contribution of the food-bearing trees should fill us with constant awe.

Apples, oranges, bananas, pears, peaches, plums, avocados, cherries, dates, figs, olives, grapefruit, mangoes, persimmons, walnuts, pecans, almonds,

(*Continued on page 34*)

SPRAY THE MODERN WAY

Concentrates—Low Gallonage

- LIGHT • FAST • ALL-PURPOSE SPRAYER
- REDUCE CAPITAL INVESTMENT AND OPERATING COST
- ONE-MAN OPERATION

SAVE $1000.00 ON YOUR NEXT SPRAYER

● The most important development in orchard spraying is the concentrate sprayer, which has reduced the cost of the spraying program.

From all over the United States growers are reporting spectacular savings with Buffalo Turbine equipment. This machine was designed to give the grower low cost spraying with increased insect and fungus control. Every Buffalo Turbine owner has clearly shown increased profits and greater spraying efficiency. From coast to coast the reports are conclusive. We would like to send you the evidence so that you can judge yourself. Remember, too, that Buffalo Turbine strategically located dealers are prepared to give you the best in service.

The Buffalo Turbine was the first concentrate sprayer manufactured. It is made in various models to fit your individual orchard needs.

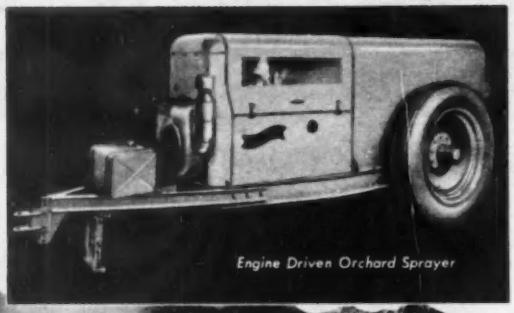
Write for descriptive literature.

BUFFALO TURBINE
AGRICULTURAL EQUIPMENT CO. INC.
GOWANDA, NEW YORK

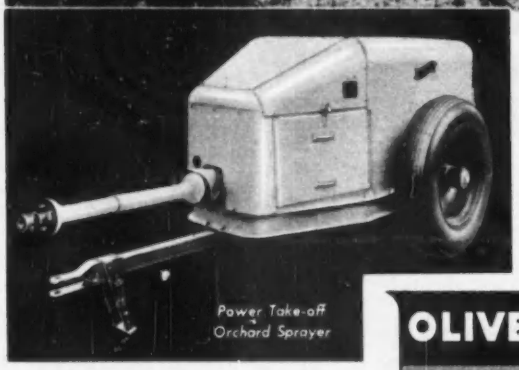
These IRON AGE Sprayers are the best that money can buy!

(We know because our customers say so)

IRON AGE gives you complete coverage and thorough penetration of all foliage to assure protection against insects and diseases. The equipment is ruggedly built to last a long, long time with a minimum of maintenance. The dependable pump gives faithful service season after season without trouble.



Engine Driven Orchard Sprayer



Power Take-off Orchard Sprayer

IRON AGE MIST SPRAYER gives volume and velocity of mist necessary for complete coverage. Light weight permits early spraying on soft ground . . . maneuverability allows close quarter work. Double axial blowers spray from either side.

IRON AGE SPRAYERS are built in many different sizes and types—both power take-off and engine driven—with a wide assortment of brooms, guns and nozzles to meet every orchard and grove spraying requirement. See your Oliver Iron Age Dealer now.

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- ☐ Please send me information on the OLIVER Tractor line.

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Address.....

City.....RFD.....State.....

Watch for Oliver Days in your area—see the new color movie "Spraying for Profit."

MAKE YOUR CROPS PAY . . . SPRAY THE IRON AGE WAY

TREE FOOD

(Continued from page 32)

filberts, hickories, and chestnuts—how different they are, and yet how alike in their innate superiority! The tree is by its very nature the most powerfully organized of the plant forms. It stands supreme in the garden, and its fruits are obviously an aristocratic food.

Inadequate Recognition

Yet the zone of prices at which these foods have been allowed to sell in the markets has not been at an equally patrician level. Apples have brought little more than potatoes, pecans little more than peanuts. The extra years required to bring tree crops into being have not been reflected in the compensation.

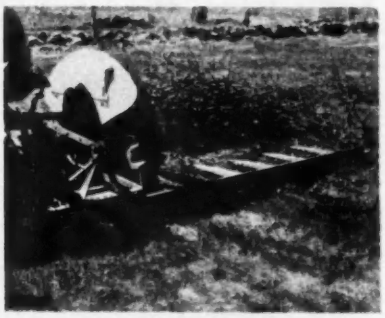
It is here that all of us who grow tree food can find a common interest quickly. We have vital talking-points in the inherent quality of tree products. Some of these points are obvious, others need more research for proper elaboration. Whether we grow cherries or almonds, we are offering to the public privileged foods, in whose production we have taken risks that run over a long period of years.

Most of us are proud to grow these trees which so thoroughly and efficiently draw from the soil and air the elements of life. Why should we not join as tree growers in acquainting consumers with the superior nature of our products? The eater is the person above all who should take joy in food that has been so marvelously produced.

Tree Food Institute

May it not be desirable for the various fruit and nut growing associations and institutes to give some thought to methods of co-operating in educational programs on the common values of tree food? Some of the basic facts are clear and should be generally recognized. Where research is needed, the agricultural experiment stations should be asked to give assistance.

Nutritionists and home economists could do much to help. Advertising



This brush rake, which was designed by Platt Brothers, Milford, Conn., collects the brush from under trees, windrowing it for the brush pusher.— *Arthur C. Babb*

layouts, whether for citrus, apples, or nuts, might well carry an agreed-upon slogan—perhaps an appropriate seal and such words as "This is a tree food." In order to perfect a co-ordinated campaign over a period of years and to insure an equitable sharing of the expense involved, a Tree Food Institute might be formed.

Such a development could mean much from the standpoint of national influence. The single tree-food industries at the last census showed the following total crop values for the preceding year in approximate figures:

Crop	Value
Oranges	$224,000,000
Apples	187,000,000
Grapes	98,000,000
Peaches	80,000,000
Grapefruit	58,000,000
Lemons	52,000,000
Tree nuts	51,000,000
Pears	36,000,000
Plums and prunes	36,000,000
Cherries	32,000,000
Apricots	12,000,000
Figs	6,000,000
Olives	6,000,000
Avocados	4,000,000
Dates	2,000,000

But when these are all added together, the total figure jumps to $884 million. Such mobilization of the influence of the entire tree-food industry would multiply by four that of its largest fraction.

Livestock producers have sensed a similar advantage in the development of their own American Meat Institute. They do not limit their public appeal to a particular item such as beef, mutton, or pork. They pool their interests on a broad basis.

The larger attack would merely reflect the capital investment in tree plantations that we have already made.

Faith Needed

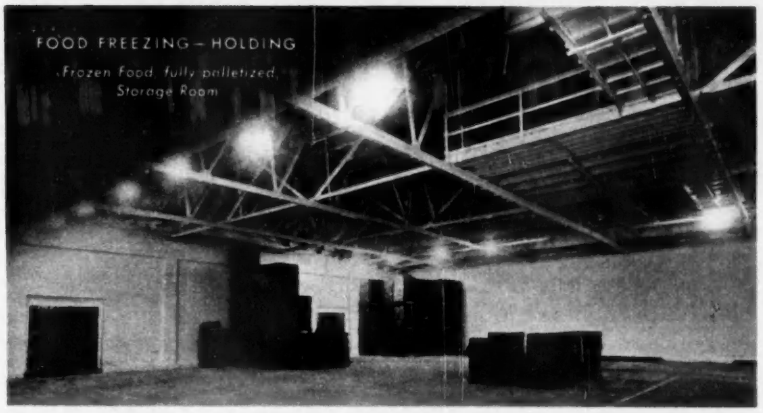
In the meantime, regardless of any concerted action, all of us as individuals can draw a wider circle, recognizing a new and larger loyalty to the family of orchardists. The nine million of us who have a stake in tree food are consumers as well as producers. If only a fraction of us would begin to exhibit the faith which tree products deserve, we might find our example contagious.

Tree nuts, for example, are being treated on the market as if they were a mere holiday item, an "accessory" to the diet, whereas they have a superior protein and fat content. A tree-food enthusiast could well consume 50 pounds in a year instead of the national average of two pounds. During the summer season he can take pride in introducing to his community such new tree-fruits as the mango or encouraging the salad possibilities of the avocado. Whatever our own commodity, we can give a mental salute to the grower whenever we use a tree food in our diet: "Hail, brother!" THE END

NIAGARA "No-Frost"

SUCCESSFUL IN BIG INSTALLATIONS

PRECOOLING
2 Niagara Spray Coolers pre cool 3500 boxes of pears per 24 hours total storage capacity 40,000 boxes



FOOD FREEZING – HOLDING
Frozen Food fully palletized, Storage Room

FROZEN FOOD STORAGE
Room 80 ft. x 135 ft. — Temperature – 5°F

NIAGARA "No-Frost" gives you extra capacity and better operation. It improves quality, especially in foods, where it brings the product to correct temperature faster and holds it without fluctuation. It saves money for you in the cost of power and labor. With Niagara "No-Frost" there is never any "de-frosting" loss of time or temperature rise.

Write for Bulletin 105

NIAGARA BLOWER COMPANY
Dept. A.F., 405 Lexington Ave.
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Sales Engineers in Principal Cities of U. S. and Canada

At your Fruit Meetings
be sure to discuss *"Fermate"*

The *only* organic fungicide with a 10-year record of increasing yields

Du Pont's "Fermate" Fungicide, the first of the new organic fungicides offers proof, not promises, of outstanding disease control for your orchard. Experiment Station records and growers' results are the proof. Ask any "Fermate" user at your fruit meeting. He'll tell you, "The longer you use 'Fermate' Fungicide, the more it stands out over other protectants."

1. **You Get Higher Yields**—As much as 60 boxes per acre more good fruit than with any other fungicide—5-year Experiment Station tests have shown 210 boxes more than with sulfur.

2. **Better Disease Control**—"Fermate" controls more diseases than any other fungicide—scab, rusts, bitter rot, black rot and blossom-end rot, sooty blotch and fly speck, apple blotch, and Brooks spot.

3. **Healthier Trees**—"Fermate" is a mild fungicide that lets trees grow as they were meant to, killing off only harmful diseases. Trees show gains each year in foliage and general vigor.

4. **Better Fruit Finish**—Mild Du Pont "Fermate" doesn't burn or scald apples—it prevents blemishes. Keeps fruit firm with good storing qualities.

Use "Fermate" Fungicide and get all 4 benefits

DU PONT Fermate

BRAMBLES

Newer varieties, resistant to disease, are winning attention

By
D. H. SCOTT and G. M. DARROW
U. S. Department of Agriculture

A NATIONAL crop-reporting service is needed for brambles similar to that for other fruit crops. Without such reports the present status of the industry is nearly impossible to assess. Statistics in the following table indicate that there was a reduction in acreage between 1939 and 1949.

Total Bramble Acreage in the United States and Acreage in Principal Bramble-producing States in 1949, from 1950 Census of Agriculture.

	Acreage by Crops and Years					
	Raspberries		**Trailing Blackberries		Other Blackberries and Dewberries	
Place	1939	1949	1939	1949	1939	1949
U.S.(total)	59,049	34,039	8,389	12,407	26,606	13,417
Eastern States:						
Michigan		9,899		18		1,427
New York		4,574		—		862
Ohio		1,357		—		—
Pennsylvania		960		—		—
New Jersey		781		—		—
Minnesota		714		—		—
Arkansas		—		1,870		1,084
Oklahoma		—		309		1,378
Texas		—		41		3,043
West Coast States:						
California		256		4,312		157
Oregon		6,462		5,221		1,770
Washington		4,606		455		1,083

**Boysen, Logan, and Young.

There are two regions of major importance in bramble production at present: 1) The Great Lakes region, mainly New York, Michigan, and Ohio; and 2) the Pacific Coast, where the acreage is concentrated in the western parts of Washington, Oregon, and California. In the Great Lakes region the acreage is mainly planted to raspberries, about half red and half black. On the West Coast, red raspberry acreage predominates, that for blackberries (including trailing types) follows, and acreage of black raspberries is small. Most of the West Coast berries are processed commercially, either by freezing or by canning, whereas in eastern United States a considerable part of the crop is sold on the fresh-fruit market.

Raspberry Variety Picture

In the Great Lakes region and other parts of eastern United States the variety situation has not changed in the past 10 years as greatly as on the West Coast. Latham is still the leading red raspberry variety in the East although Taylor and Milton acreages are increasing gradually. Neither is so winter hardy as Latham, and Taylor is susceptible to viruses. Milton, however, escapes virus infection under conditions where a variety like Newburgh doesn't escape. Cumberland and Logan are the leading black raspberries, but Bristol

and Dundee are becoming increasingly important. Newer varieties of special interest, particularly to home gardeners or local market gardeners, are three fall bearers.

Durham, introduced by the New Hampshire station, ripens early in the fall and is promising for sections with short fall seasons such as New England and North Central states; September from the Geneva, N. Y., station produces well in the fall and has high-flavored fruit; Purple Autumn from the Illinois station is the first purple-fruited fall-bearing raspberry variety to be introduced.

Other varieties of interest are Mandarin, a red variety from the North Carolina station for the South, for its heat tolerance and disease resistance; and Earlired, from the South Haven, Mich., station, for its earliness. Manteo is a heat-tolerant black raspberry from the North Carolina station.

Blackberries Declining in East

Blackberries in eastern United States have declined in importance in recent years. Eldorado is the leading cultivated variety. Lawton is important in Oklahoma and Early Wonder in Texas. Newer varieties include Bailey and Hedrick from the Geneva, N. Y., station and Jerseyblack introduced in 1953 by the New Jersey station. Large quantities of fruit are harvested in the wild from native blackberries in West Virginia, Kentucky, and Tennessee.

On the West Coast the variety picture has changed materially in recent years. Willamette and Washington have rapidly replaced the older varieties of red raspberry and now constitute most of the acreage. Cuthbert, which previously was the leading red raspberry variety, is grown now on a very limited scale. Willamette with its vigorous growth and large fruit is preferred on heavy soils because of its tolerance to unfavorable soil conditions. Washington rates highest on deep, well-drained soils because of its somewhat superior fruit quality compared with Willamette. Canby is a new red raspberry variety introduced in 1953 by the U. S. Department of Agriculture and Oregon station as a processing berry particularly attractive for frozen pack.

Newer varieties of blackberries, many originated in Oregon, have created considerable interest among growers and processors. Although Boysen maintains its popularity because of its large size and fine flavor, Logan and Young are declining in acreage as the newer varieties such as Cascade, Chehalem, and Olallie become better known. Cascade is notable for its fine flavor and attractive appearance in frozen pack. It is the home garden variety without an equal in flavor for use fresh, as jam, and frozen. Chehalem and Olallie are too new at this time for us to predict their

(*Continued on Page 38*)

a full-fledged air sprayer for medium-sized orchards

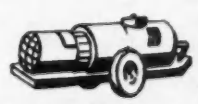
the *NEW* John Bean SPEEDETTE

Now! John Bean brings to owners of medium-sized orchards all the benefits of air spraying at a price they can afford. Cleaner fruit, lower cost, faster coverage, less material, fewer workers, and increased profits — *all* these are possible in an orchard sprayed by a John Bean Speedette.

Designed for dilute or concentrate spraying, the Speedette's spray pattern, discharge direction, and air volume are easily adjusted to meet changing conditions in your orchard. The Speedette is available in either engine-powered or power-take-off models.

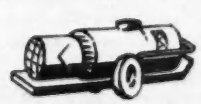
Ask Your John Bean dealer to Demonstrate the Speedette in Your Orchard.

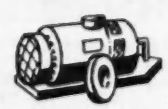
there's a John BEAN air sprayer to match your needs


MODEL 40 SPEED SPRAYER

MODEL 29 SPEED SPRAYER

SPEEDETTE WITH PTO


MODEL 36 SPEED SPRAYER


MODEL 28 SPEEDETTE

SPEEDAIRE

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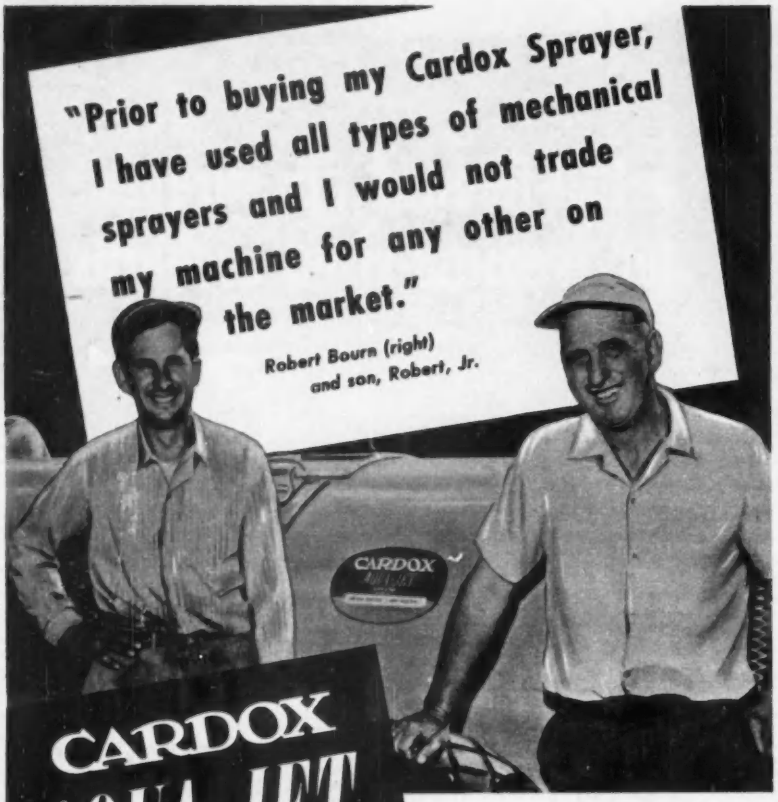
John BEAN LANSING 4, MICHIGAN SAN JOSE, CALIFORNIA

Division of Food Machinery and Chemical Corporation

"Prior to buying my Cardox Sprayer, I have used all types of mechanical sprayers and I would not trade my machine for any other on the market."

Robert Bourn (right) and son, Robert, Jr.



CARDOX AQUA-JET SPRAYER MODEL 54

The Sprayer That Owners Endorse

The sensational performance of the CARDOX Aqua-Jet—endorsed by *every* Aqua-Jet owner for perfect coverage and clean crops—is the result of a superior operating principle found in no other sprayer!

The CARDOX Aqua-Jet is the only sprayer that combines:

AQUA-JET Heads backed by high-velocity air-draft. Adjustable impinging jets assure lowest pressure drop

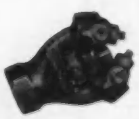
MECHANICAL AGITATION Spray material is always thoroughly mixed—neither too "strong" nor too "weak"

HIGH PRESSURE PUMP The powerful punch for long range projection and thorough coverage

Because of these three features, the CARDOX Aqua-Jet enables you to put the spray where you want it—in the pattern you want—with uniformly mixed spray material and least possible waste.

ONE MAN DOES THE JOB WITH AQUA-JET

Tractor seat control—on, off or for spraying to either side. Low overall weight can be handled by any medium sized tractor.



8 TWIN AQUA-JET HEADS plus pump pressures to 210 psi atomize spray and saturate trees to a distance of 25 to 40 feet. With only 8 heads, maintenance is held to a minimum!

NEXT SEASON GET BETTER SPRAYING AT LOWER COST! See your CARDOX Aqua-Jet Dealer or write us for his name.

CARDOX CORPORATION

BELL BUILDING • CHICAGO 1, ILLINOIS

Factories at: San Jose, California · Monee, Illinois · Ottumwa, Iowa

BRAMBLES

(*Continued from page 37*)

value, but they appear promising and are being tested extensively by growers on the West Coast. Olallie seems especially promising in California.

Disease Remains a Problem

Serious disease problems exist wherever brambles are grown, but newer fungicides and insecticides have simplified control measures in some instances. Anthracnose is now easily controlled with ferbam. However, Washington red raspberry is susceptible to rust in Oregon and Washington, and frequent dusting with sulfur is necessary for full control. Little is known about preventing the spread of mild streak virus in black raspberries in eastern United States since the vector has not been identified. Mosaic in red raspberries is a threat despite inspection and certification of nursery stocks.

Fruit farm cold storage is the answer to many marketing problems. Plans for the simple modern combination cold storage and packing house illustrated here are available from AMERI-

CAN FRUIT GROWER, Willoughby, Ohio, for $1.00. Complete working drawings are included. The storage can be built for 10,000-bushel capacity and later increased to 20,000. A gable roof can be substituted where snow is a problem.

In eastern United States blackberries are plagued by at least three types of sterility. One caused by tarnished plant bug injury can be prevented by spraying with DDT just prior to blossoming. A second type of sterility is associated with the stocks and the cause is unknown, although a virus is suspected. The third type is due to mixtures of stocks with wild sterile plants.

On the West Coast stunt virus severely damages some varieties of blackberries, but it has not become widespread up to the present. Growers can effectively prevent the spread of viruses in their plantings by quickly roguing out any suspicious looking plants.

Mechanical Harvesting

Mechanical pickers for red raspberries are still under test in western Washington with the hope that they may be improved and adapted to general use. The cost of harvesting might then be reduced to much less than half the cost of hand picking. THE END

HORT SOCIETY PROGRAMS

THE month of January is an important one for a dozen or more horticultural societies, for it is during this first month of the new year that their annual meetings are held. Authoritative speakers will headline all programs.

Brief reports of the programs for Maryland, Missouri, Massachusetts, and Western Washington meetings in January were included in the December issue of AMERICAN FRUIT GROWER. The following brief accounts include the featured speakers and featured subjects for several additional meetings taking place this month.

Kentucky

"Planting for the Future" will be the keynote of the Kentucky State Horticultural Society meeting at Paducah on Friday, January 8. A. N. Pratt, Tennessee state horticulturist and secretary of the Tennessee State Horticultural Society, and S. W. Chandler, entomologist, University of Illinois, will be featured speakers. A barbecue supper on the night of the 7th will start the activities for the annual get-together, says W. W. Magill, Lexington, secretary.

Indiana—APS

The Indiana Horticultural Society, American Pomological Society, and Indiana Nut Growers will meet in joint session at Indianapolis, in the Murat Temple, January 13–15. Grower panel discussions will cover prepackaging apples and chemical spray thinning. Present status of the codling moth will be discussed by Don Hamilton, USDA entomologist. H. Patterson, Michigan Apple Commission, will cover apple promotion.

"How Serious Is the Present Drought?" will be the talk by Dr. R. K. Simons, University of Illinois. Peach varieties and training of young apple and peach trees is the subject John T. Bregger, Clemson, S. C., will cover. A panel discussion of new tree fruit, small fruit, and nut varieties will be headed by Dr. C. L. Burkholder of Purdue, Stanley Johnston of Michigan, Dr. A. S. Colby and Dr. J. C. McDaniel of Illinois.

Banquet program will include presentation of APS Wilder medal awards and an illustrated European horticultural tour by Dr. H. B. Tukey, head, Michigan department of horticulture and associate editor AMERICAN FRUIT GROWER. There will be 30 commercial exhibits, and 75 apple varieties and strains will be on display. R. L. Klackle, West Lafayette, is secretary of the Indiana society.

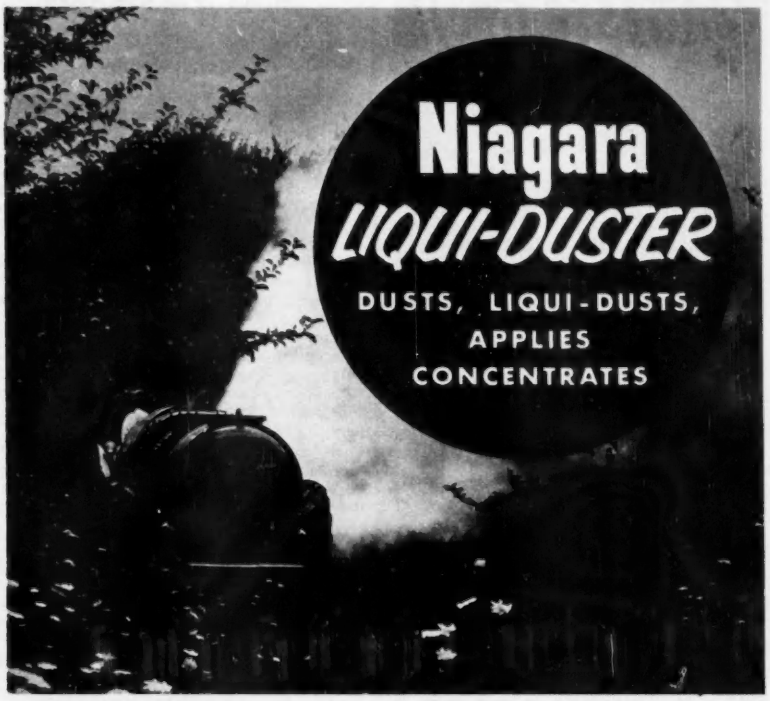
Maine

The Maine State Pomological Society annually holds its meeting in conjunction with the Trade Show in the Armory at Lewiston. The dates this year are January 19–21. Harold A. Merrill, Fish and Wildlife Service, Boston, will give growers up-to-date information on mouse control. A panel discussion on the use of thinning sprays will be led by Dr. Franklin Eggert, head, Maine department of horticulture.

Robert Lovejoy of Acton will report on the activities of the New York and New England Apple Institute, while John Chandler, executive vice-president of the institute, will show the popular and informative National Apple Institute film, "Gateway to Health". The codling moth survey will be explained by Dr. F. H. Lathrop, Maine Experiment Station entomologist. Dr. M. T. Hilborn, Maine Experiment Station pathologist, will bring growers up-to-date on disease control.

Selection of Maine's Apple Queen will bring feminine pulchritude into the limelight, reports Secretary F. J. McDonald of Monmouth.

(*Continued on page 40*)



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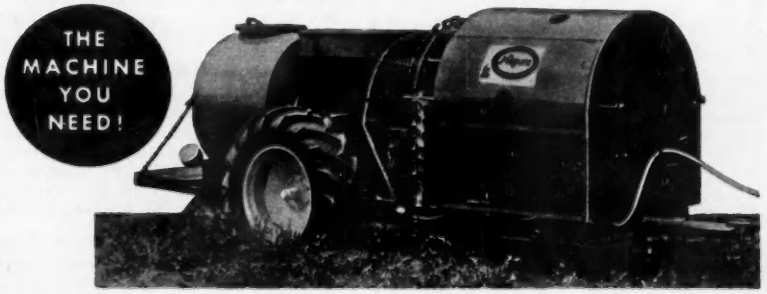

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HORT PROGRAMS

(*Continued from page 39*)

Pennsylvania

Efforts have been made by Secretary J. U. Ruef of State College to set up a program for the State Horticultural Association of Pennsylvania meeting which will deal with the principal topics of improvement of fruit finish, control of apple maggot, preparing for irrigation, and the possibility of checking rodent injury. The meeting will take place at the Yorktowne Hotel in York on January 25–27.

Out-of-state speakers who will assist State College research and extension workers in the discussion of these topics include Dr. A. H. Thompson, University of Maryland; Dr. R. H. Daines and Dr. Norman F. Childers, both of Rutgers University; and Dr. R. W. Dean, Hudson Valley Fruit Investigation Laboratory; E. W. Carlsen, director, Fruit Industries Research Foundation, Yakima, Wash.; and Harold A. Merrill, Fish and Wildlife Service, Boston.

Dr. Milton S. Eisenhower, president of The Pennsylvania State College, will make the principal address Tuesday evening preceding the crowning of the 1954 Pennsylvania Apple Queen.

New York

The **Rochester** meeting of the New York State Horticultural Society is scheduled for January 20–22. Subject and speakers include: Outlook for marketing, by Dr. M. E. Brunk, B. A. Dominick, Jr., and K. L. Robinson; concentrate spraying, by Cornell and Geneva extension and research staff members. A small fruits session on dead arm disease of grapes, by G. C. Chamberlain, Ontario, Canada, and A. E. Mitchell, Michigan State College; outlook for grapes, by Lloyd Davis, Cornell, and R. G. Hill, Ohio Experiment Station; raspberry-strawberry-grape panel, by A. Braun and G. L. Slate.

Tree fruit session on such subjects as growing better finished apples in Michigan, by A. E. Mitchell; varieties and planting plans, by Dr. A. J. Heinicke and a panel of growers.

Cost-conscious growers will be keenly interested in the film from the Pacific Coast on fruit handling methods, also the special demonstration of laborsaving equipment.

Out-of-state speakers during the **Kingston** meeting on January 27–29 will be M. E. Knouse, Knouse Foods Co-operative, who will discuss processing for eastern New York and New England and E. W. Carlsen, director, Fruit Industries Research Foundation, Yakima, Wash. Effect of fruit acreage reduction will be covered and a panel on tree planting, will be held. Soils and minor elements in tree nutrition will be discussed by Dr. C. P. Hawley, USDA, and Damon Boynton, Cornell.

Dan Dalrymple is secretary of the society, with headquarters at Lockport.

Virginia

The 58th annual meeting of the Virginia State Horticultural Society will be held January 25–27 at Hotel Roanoke, Roanoke. Secretary John F. Watson of Staunton reports that such pertinent topics will be discussed as irrigation, marketing, expanding educational facilities, spray thinning, hydrocooling peaches, preferred varieties, and pest control.

Feature speakers will include Earl Carlsen, director, Fruit Industries Research Foundation, Yakima, Wash., whose topic will be "Retail Movement Studies May Point the Way Toward Increasing Apple Sales." Moderator of a panel on building Virginia apple markets will be Honorable Parke C. Brinkley, commissioner, Virginia Department of Agriculture. Miss Janet Cameron, Food and nutrition specialist, Virginia extension service, will tell of accomplishments in educating consumers regarding Virginia apples.

"Are We Missing a Bet by Not Irrigating?" is the provocative title of the talk to be given by Dr. John Magness, USDA. Dr. Leon Havis, USDA, will discuss peach production.

THE END

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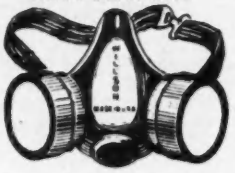

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CALENDAR OF COMING MEETINGS AND EXHIBITS

Jan. 4-5—Maryland State Horticultural Society 56th annual meeting, Hotel Alexander, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 4-5—Missouri State Horticultural Society annual meeting, Daniel Boone Hotel, Columbia.—W. R. Martin, Jr., Sec'y, Columbia.

Jan. 5-7—Massachusetts Fruit Growers Association 68th annual meeting, Municipal Auditorium, Worcester.—A. P. French, Sec'y, Amherst.

Jan. 5-7—Western Washington Horticultural Association annual meeting, Fruitland Grange Hall, Puyallup.—Morrill Delano, Sec'y, Puyallup.

Jan. 8—Kentucky State Horticultural Society annual meeting, Paducah.—W. W. Magill, Sec'y, Lexington.

Jan. 8-9—Western Colorado Horticultural Society 11th winter conference, Mesa College, Grand Junction.—L. L. Mariner, Sec'y, Box 487, Grand Junction.

PEACH MEETING

The National Peach Council will hold its annual meeting at Fresno, Calif., on February 15-17. The address of Dr. M. J. Dorsey, secretary, is 1502 S. Lincoln, Urbana Ill.

Jan. 13-15—Indiana Horticultural Society annual meeting in joint session with American Pomological Society annual meeting, Murat Temple, Indianapolis.—R. L. Klackle, Sec'y, Ind. Society, Purdue University, West Lafayette.—W. D. Armstrong, Sec'y, APS, Princeton, Ky.

Jan. 19-21—Maine State Pomological Society annual meeting, in conjunction with Trade Show, Lewiston Armory, Lewiston.—F. J. McDonald, Sec'y, Monmouth.

Jan. 20-22—New York State Horticultural Society annual meeting, Rochester—D. M. Dalrymple, Sec'y, Lockport.

Jan. 25-27—State Horticultural Association of Pennsylvania annual meeting, Yorktowne Hotel York.—J. U. Ruef, Sec'y, State College.

Jan. 25-27—Virginia State Horticultural Society 58th annual meeting, Hotel Roanoke, Roanoke.—John F. Watson, Sec'y, Staunton.

Jan. 25-30—New Jersey Farmers Week, Trenton.—Fred W. Jackson, Dept. of Agr., Trenton 8.

Jan. 27-29—New York State Horticultural Society eastern meeting, Kingston.—D. M. Dalrymple, Sec'y, Lockport.

Feb. 3-5—Ohio State Horticultural Society annual meeting, Toledo.—C. W. Ellenwood, Sec'y, Wooster.

Feb. 11-12—Idaho State Horticultural Society 59th annual meeting, Hotel Boise, Boise.—Anton S. Horn, Sec'y, Ext. Serv., Boise.

Feb. 11-13—West Virginia State Horticultural Society annual convention, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

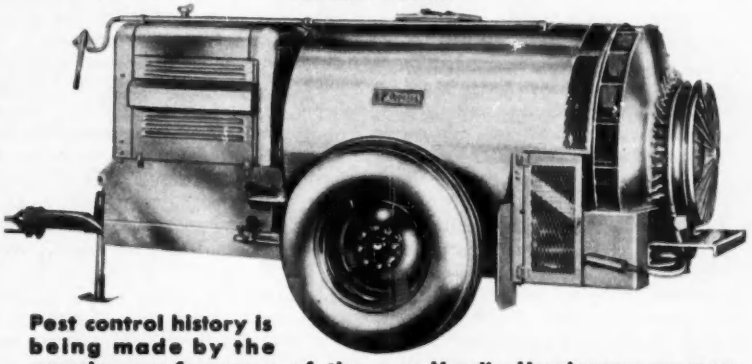
Feb. 15-17—National Peach Council annual meeting, Fresno, Calif.—M. J. Dorsey, Sec'y, 1502 S. Lincoln, Urbana, Ill.

Feb. 25-26—Vermont State Horticultural Society annual fruit conference, Municipal Auditorium, Burlington.—C. Lyman Calahan, Sec'y, Burlington.

C. Lyman Calahan, University of Vermont extension horticulturist, shows one of the split limbs he uses to illustrate talks on fruit tree diseases. He passes it among growers during a lecture. The limb is hinged and labeled.—C. L. STRATTON

TWO FANS IN THIS GREAT NEW HARDIE HURRICANE®

BRINGS NEW, LOW COST TO BIG ACREAGE SPRAYING



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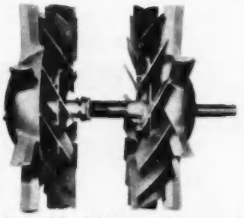
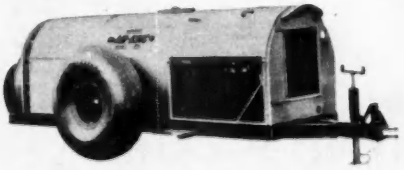


Two 26" axial fans with opposed blades are mounted on a single shaft in the Hardie Hurricane. Special baffling assures absolutely constant, uniform air delivery.



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CULTURAL TRENDS

The shift to mechanization is responsible in great measure for the many changes taking place

By H. B. TUKEY

FIVE features mark the trend in the culture of fruit crops, namely, increased use of 1) mulch and trashy cultivation; 2) complete fertilizers coupled with the recognition and correction of mineral deficiencies; 3) supplemental irrigation; 4) pruning, often severe, for open trees; and 5) improved mechanized cultural equipment.

1) *Mulching* continues to be "better than we know." Many orchard management troubles have disappeared as the practice of mulching has increased in use. Explanations are given in terms of improved aeration, greater availability of nutrients, increase in soil moisture, and lessened run-off.

But there is still more explaining to do. Though it is confined largely to the apple, the practice of mulching is spreading to the peach, the cherry, the pear, some nut trees, and even brambles and grapes in a small way. Trashy cultivation and the use of the culticutter and similar sod break-up and vegetation-control tools, have further reduced clean cultivation practices.

2) *Supplemental irrigation* with lightweight portable piping and sprinklers has increased in use for strawberries and other small fruits east of the Rocky Mountains and has found some favor with tree fruits. Not only has cropping and size of fruit been maintained in droughty periods, but increased amounts of fertilizers has been found possible. Also, sprinkler irrigation has reduced frost damage in strawberries.

3) *Complete fertilizers* are being more generally used in place of the "no fertilizer" and the "nitrogen only" program of a generation ago. Potassium has been found next limiting after nitrogen, followed by magnesium, calcium, manganese, and minor elements such as boron and zinc. The recognition and measure of deficiencies has been made possible by refined chemical procedures, the spectrographic method of analyses, quick tests, and improved soil and tissue tests. No longer are growers satisfied with soil tests alone, since presence of a material in the soil may not mean that the plant is receiving it. Recognition is now being given to the balancing of fertilizers, as illustrated by potassium deficiency appearing when high nitrogen fertilizers are used freely.

A rapid service built upon spectrographic analysis of leaf samp'es was introduced to Michigan fruit growers during the year. "Starter solutions" containing small amounts of readily available nutrients have been found helpful in replanting old orchard sites.

4) *Pruning* has shifted towards lower and more open trees so as to permit spray penetration with the new concentrate, air-blast equipment, and to aid in thinning and harvesting operations. These practices assist in meeting modern market demands for high color and better quality.

Clover-leaf and wedge pruning, which provide working entries into the tree, have found increased favor. Chain saws, light pneumatic pruners, and hydraulically-operated platforms have made it possible to carry on pruning practices which have been all but neglected the last few years because of prohibitive costs of hand labor and old equipment.

5) *Mechanization* has been a principal factor in bringing about some of the cultural changes noted. Cheaper, more accessible electric power, small electric motors, small portable gasoline engines, more efficient trucks and tractors, hydraulic lifts, and pneumatic tools, have all played important parts. THE END

IT'S AS ELEMENTARY AS A B C . . .

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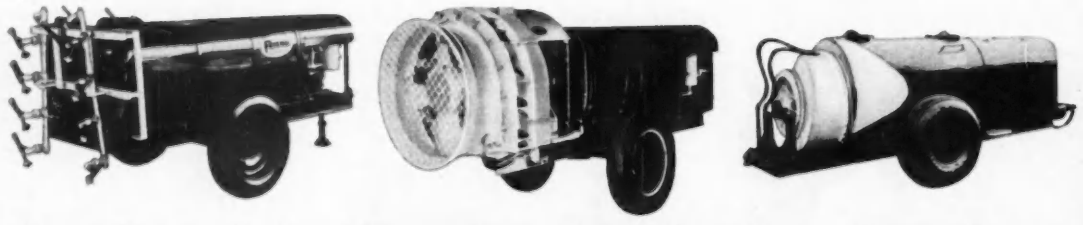

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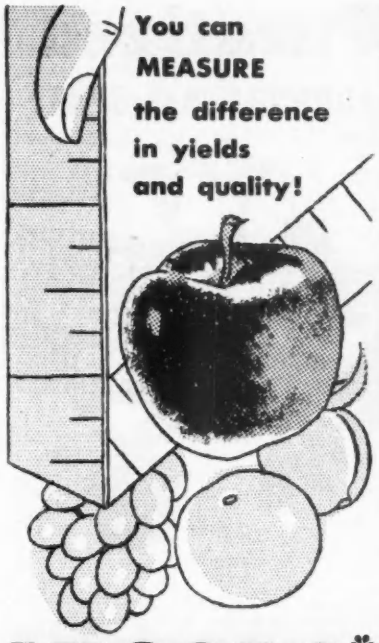

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NEW FRUIT VARIETIES

(*Continued from page 27*)

as Elberta. Of interest in southern peach belt.

Erli-Berta arose as a bud mutation of Early Elberta. Discovered in 1948 by H. E. and R. K. Hiraoka; introduced commercially in 1951. Fruit resembles Early Elberta, but is claimed to ripen about two weeks earlier. Tree bears well, requires heavy thinning.

Fireball appeared in a lot of trees purchased for the variety Sunhigh. Resembles Hale Haven. Introduced commercially by Peach Ridge Farms & Nursery, Clemson, S. C. Yellow fleshed freestone.

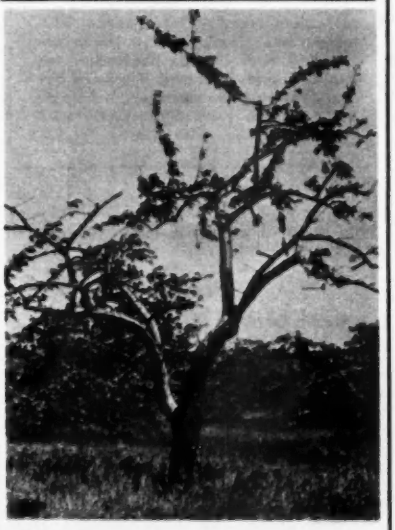
Golden Flame has been described as a bud mutation from Howard Fisher variety. Discovered in 1950 by H. E. and R. K. Hiraoka. Season of ripening corresponds with Florence in early June. A semicling with yellow flesh and red blush on skin. Medium to large in size, has very little pubescence.

Maygold is another variety from U.S. Horticulture Field Laboratory, Fort Valley, Ga. It is out of the cross Sunhigh x Southland. Introduced commercially in May, 1953. Especially recommended for trial in area from Montezuma, Ga., southward to Quincy, Fla., or in similar areas of warm winter climate, as the tree has very low chilling requirement. A clingstone with yellow flesh, firm but melting, ovate and with a light red blush. Both leaves and fruit are subject to bacterial spot.

Merrill Bonanza comes from the peach breeding program of Grant Merrill, the peach enthusiast of Red Bluff, Calif. Introduced commercially in 1953. Yellow fleshed freestone, very firm, therefore recommended for shipping. Ripens during July Elberta season and resembles somewhat an early variety of the same originator called Merrill Gem.

Ranger is a selfed seedling of Raritan Rose from cross made in 1940 at Beltsville (Md.) Plant Industry Station and introduced in 1952. Bacterial spot does not seem to bother this variety as much as most commercial sorts now grown. Fruit is rated good for both freezing and canning and should do

(*Continued on page 44*)



YOU CAN UTILIZE YOUR OLD TREES by grafting. Above is a tree in the orchard of George Parker, Wilton, N. H., which Prof. E. J. Rasmussen, extension horticulturist at the University of New Hampshire, aided by two Canadian research workers, trimmed severely and then grafted on several dozen Delicious scions. Four years from now Mr. Parker will be picking apples that he would not have had had he cut down the tree and planted a new one.—*Charles L. Stratton.*

NEW SEYMOUR SMITH TIFFANY PRUNER

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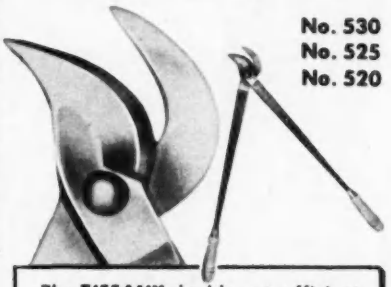

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The *TIFFANY* double cut, efficient "draw-in" cutting action and 100% hammer forged alloy steel parts **PLUS** the *Seymour Smith* improved bolt and nut joint, through handle and riveted grip fastening and thinner cutting edges.

3 SIZES: 30" ($5.75) 25" ($5.50) 20" ($5.25)

"ORCHARD" TREE PRUNER (No. 4)

For the long reach. Favorite of apple growers. Sliding operating handle. Steel reinforced head. Keen cutting blade is of fine cutlery steel. In 3 lengths—
8' ($5.65)
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Leading fruit growers have found it really pays in better fruit and better finish to chip their prunings and thinnings, and leave the chips around the base of the trees as effective mulch.

Read what one leading grower says about his Fitchburg Chipper:

"Our Fitchburg Chipper is one of the best investments I have ever made, and has already paid for itself. I believe the chip mulch to be far better than hay as it will not burn and will last a lot longer."

Learn how an inexpensive, easy-to-use Fitchburg Chipper can give you excellent low-cost mulch from waste wood in your orchards. Save time, labor and money—send the coupon for new, illustrated free folder.

GET THE FACTS— MAIL COUPON!

FITCHBURG ENGINEERING CORPORATION
Dept. 11, Fitchburg, Massachusetts
Please send me the new Fitchburg Chipper Folder.
Name_____
Address_____
Town_____ State_____

NEW FRUIT VARIETIES

(Continued from page 43)

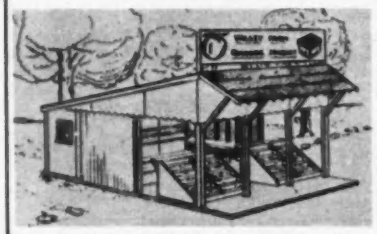
well on local markets and for fresh fruit. Yellow freestone somewhat larger than Golden Jubilee. It will probably be most successful in the mid-southern peach section as the tree has a moderately high chilling requirement.

Somervee recalls to peach enthusiasts another "V" variety, which brings to mind the Vineland, Ontario, Canadian Horticultural Station, where Somervee was introduced in 1951. Hale Haven x Oriole cross, coming from the breeding project of O. A. Bradt. Yellow blushed clingstone of good quality; matures early, about one week after Mayflower.

Springtime signifies the continuous effort of peach breeders to advance the season of ripening. Herbert C. Swim at Armstrong Nurseries, Inc., Ontario, Calif., produced this variety which ripens approximately two weeks earlier than Robin in southern California. Obtained by using a selected seedling of the original cross of Luken's Honey x July Elberta, crossed later with Robin. Yellow-fleshed freestone. Tree is suitable for regions having a mild winter climate.

Sunrise was tested under number New Jersey 133 and is a selection of the late Prof. M. A. Blake. It has J. H. Hale, Slappey, and Dewey in its parentage. Yellow-fleshed semi-clingstone of medium size; ripens about two weeks before Jerseyland. Fruit set is heavy and requires thinning.

This roadside market, conveniently located so the motorist can readily stop, will make it easy for you to take care of customers quickly. Movable racks make it possible to maintain an



attractive stand in accordance with supply and demand, and the overhanging roof affords protection for the customer. Working drawings for this easy-to-build stand are available for 50 cents from AMERICAN FRUIT GROWER, Willoughby, Ohio.

PEAR

Illinois Bartlett indicates progress toward production of a blight resistant pear of Bartlett type as claimed by A. M. Whitford, Farina, Ill., who introduced the variety in 1953. It came from a cross thought to be Kieffer x Duchess d'Angouleme. Tree is upright and spreading, being similar to Garber. Fruit matures in late September; has some of the fine flesh characteristic of the Bartlett.

PECAN

Barton was originated in Brownwood, Texas, at U.S. Pecan Field Station by L. D. Romberg. Cross made in spring of 1937 of Moore x Success. This promising seedling is named after the late John Barton, Sr., Utley, Texas. Nut is of medium length with blunt ends, somewhat larger than Moore. Shell is attractive and very thin; well suited to machinery or hand cracking. Kernel is bright in color, smooth, of high oil content, rich flavor, and consists of about 58 per cent dry weight of the whole nut. Said to deteriorate more

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AGRICULTURAL SPRAY

Years of usage have proven the effectiveness of **PURATIZED AGRICULTURAL SPRAY.**

Elimination of scab means bigger crops, quality fruit and better profits. That is why commercial growers everywhere use **PURATIZED AGRICULTURAL SPRAY.**

Research authorities recognize its effectiveness for the control of scab and other plant diseases.

EASY TO USE
Readily water soluble. Leaves no visible deposit. Can be applied with other insecticides and fungicides.

VERSATILE
Also effective for brown rot, blossom blight of cherries and peaches, and other plant diseases.

ECONOMICAL
One gallon makes 800 gallons of spray.

Consult your local dealer or write today for further information.

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MANUFACTURED BY
GALLOWHUR CHEMICAL CORPORATION
New York 17, N. Y.

slowly than most varieties. Tree is vigorous but less spreading than Success; comes into bearing early. Recommended for trial throughout southern pecan growing areas.

PERSIMMON

Illini Male is a bud mutation of Urbana discovered in 1952 in which the sexual type is reversed. This variety is potentially valuable for breeding in the American persimmon but in itself is probably of no immediate commercial interest. J. C. McDaniel, Illinois Agricultural Experiment Station, has brought this variety to the attention of others.

Urbana also originated at Urbana, Ill., introduced commercially in 1953. It arose as a sucker from a nursery tree and was first reported in 1940. Fruit resembles Killen and is one of the most promising selections of native persimmon fruit at Illinois Agricultural Experiment Station.

William is a profusely blooming variety discovered by J. C. McDaniel, Illinois Agricultural Experiment Station. Variety is mostly staminate, but occasionally a few perfect flowers appear. Tree has promise as an understock, being sturdy and spreading in growth habit. It produces many suckers.

RASPBERRY

Better Homes and Gardens (Golden Willamette) is a rather unique raspberry of golden yellow color; bears both in summer and fall; was introduced commercially in October, 1952. Originator is Bertram Altbayer of Orange County, New York. A bud mutation of Willamette.

Canby is a new raspberry and from first impressions is superior to any variety now grown in the Northwest, especially as a fresh market berry. Also suitable as a frozen product. Introduced commercially in 1953 by George F. Waldo in joint breeding project of USDA and Oregon Agricultural Experiment Station, Corvallis. Like every good fruit variety, it does not please everyone all of the time, as the bush dies out in poorly drained heavy soils.

New York Times, also known as Golden Indian Summer, resembles Golden Queen and is a bud mutation of Indian Summer introduced in 1952 by Bertram Altbayer, Orange County, New York. Berry picks easily and bears both in summer and fall.

Purple Autumn is a new autumn fruiting variety originated by A. S. Colby, Illinois Agricultural Experiment Station, Urbana, and introduced in August, 1953. Cross of Bristol x Indian Summer; has large medium purple fruit of high flavor. Can be harvested easily. Most nearly resembles Indian Summer.

Thames has a bright red color and this new variety from the Central Experimental Farm, Ottawa, Canada, appears excellent. Holds well after picking and is said to be good for freezing. Variety matures very late in the season in the Canadian tests. It is a cross of Lloyd George x Newman 23; first selected in 1931, introduced commercially in 1952.

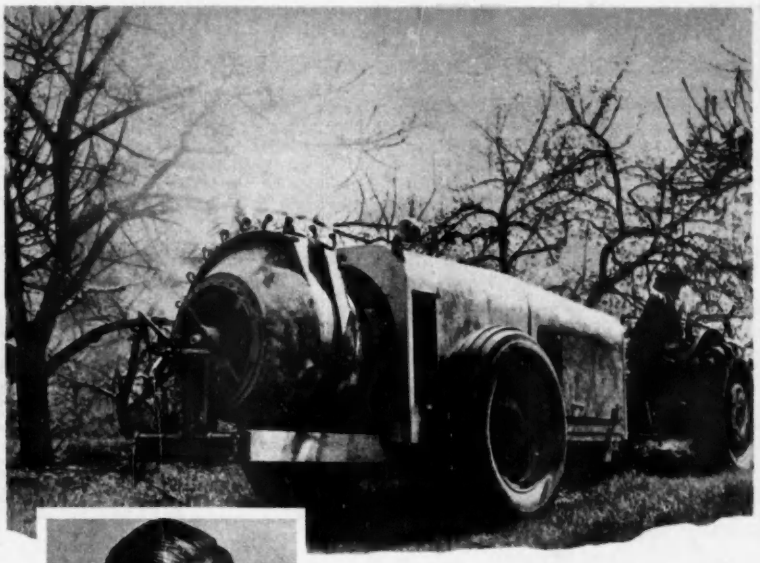
STRAWBERRY

Brilliant is right from the Heart-O-Michigan Farms & Nursery and is patented as 1,183. Open-pollinated seedling of Gem; outstanding variety for quick freezing. Plant is an everbearer and has been found to be hardy in Michigan. Patent rights have been assigned to Emlong Nurseries, Inc., Stevensville, Mich., and Carl A. Stahelin, Bridgman, Mich.

Parker is from a cross of Blakemore x Sparta and this new everbearer needs little or no winter protection. Fruit is medium to large on short stems, with very good flavor.

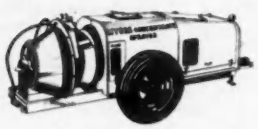
Parkland most nearly resembles Glenmore; introduced by Honeywood Nursery of

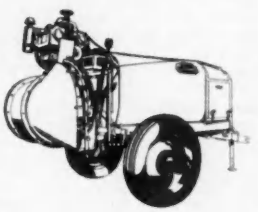
(*Continued on page 46*)

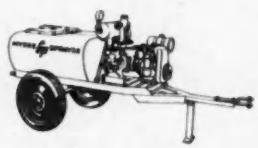


"Produced the best fruit I've ever grown after one season using a Myers Concentrate Sprayer"

says Wm. Blackburn,
RT. 3, MEDINA, NEW YORK







Fewer days spraying, lower labor costs, better fruit finish . . . these are a few of the reasons growers the country over are turning to Myers Concentrate Sprayers.

One man with a Myers concentrate sprayer can cover in one day what three men and dilute rig can cover in two days.

But most important of all are the results. Growers everywhere report fewer culls and better fruit finish at the grading table after using a Myers concentrate sprayer for just one season.

You, too, can benefit from the labor-saving and profit-making advantages of concentrate spraying the Myers way. An experienced Myers sprayer representative can show you the way to easier, more dependable orchard spraying.

Write today for the name of your nearest Myers Dealer.

MYERS POWER SPRAYERS

THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO

Versatile

HALE Centrifugal Orchard Sprayer sprays at any capacities and pressures, up to 100 G.P.M. at 600 lbs. at fast tractor speed. No relief valve necessary. The most versatile sprayer on the market.

Write for Bulletin #302, State Size of Grove or Orchard.

SPRAYER DIVISION

HALE FIRE PUMP CO. CONSHOHOCKEN, PA.

Light—Compact

Compare the Hale Centrifugal Sprayer for weight—makes for easier handling with smaller tractors.

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SPRAYER DIVISION

HALE FIRE PUMP CO. CONSHOHOCKEN, PA.

Fast

Sprays efficiently as fast as your tractor can run thru orchard or grove. Remote controls for convenience and saving of materials.

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SPRAYER DIVISION

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Coverage

The Hale Sprayer sprays with complete coverage, top and bottom, inside and outside. Nozzles adjustable for direction, volume and pattern.

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SPRAYER DIVISION

HALE FIRE PUMP CO. CONSHOHOCKEN, PA.

Insist on **HALE**

Irrigation Pumping Units

Protect your orchard or grove against drought in 1954.

Write for detailed information. State No. of Acres and Source of Water Supply.

Irrigation Division

HALE Fire Pump Co. Conshohocken, Pa.

NEW FRUIT VARIETIES

(Continued from page 45)

Parkside, Saskatchewan, Canada. Second generation selection of Sparta x Moore strawberry. Plant is very hardy and vigorous.

Pennholm is an everbearing variety most nearly resembling Twentieth Century. Claimed to do better farther south than other everbearers. Originated in Carpenter, Ohio, by Truman A. Penn, and introduced in 1953.

Plentiful is Illinois seedling 41-11 introduced at the Illinois Agricultural Experiment Station, Urbana, by A. S. Colby. Derived from Redstar x Pathfinder, seedling was selected in 1945. Fruit is very large, medium firm, medium to light red, and considered of good flavor. Recommended mostly for local and fresh marketing use, maturing in late midseason. Plant produces many runners and is resistant to red stele, leaf spot, and leaf scorch.

Prince Albert is an open-pollinated seedling of Easy Picker. Plant is hardy and highly productive in north prairie areas of Saskatchewan. Lately introduced by Honeywood Nurseries, Parkside, Saskatchewan.

WALNUT

Burtner was originated by Fayette Etter, Lemasters, Pa., and introduced in 1951. Parentage is unknown, but was selected in 1945. Persian type walnut with large kernels and well sealed shell. Tree is hardy and escapes frost; is presumed to be self-pollinating.

Several varieties mentioned in the Berries and Brambles report in this issue are not included in this descriptive listing, having been named late in 1953. They are Croatan, a canker-resistant blueberry for the South; Pocahontas strawberry, a shipping berry for the south-central United States; Dixieland strawberry, for southern areas; and Jerseyblack blackberry, a development of the New Jersey Agricultural Experiment Station.

McKinster is another variety among the many promising Persian walnuts that have come from original seeds imported by Reverend Crath. Tree is claimed to be well adapted to Ohio climate and gives large crops of good quality nuts.

Metcalfe is another Carpathian seedling originated in Webster, N. Y. It is brought to public attention by Mrs. Ward H. Metcalfe. Nut has white meat and thin shell. Tree has been found hardy to —20°F.

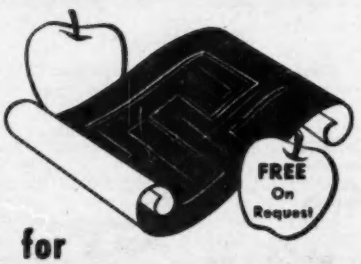
Ortho 1 is an open pollinated seedling of Crath Carpathian walnut. Winter hardy in Butler Township, Montgomery County, Ohio, where it was selected by A. C. Orth. Offered commercially in 1953 by Benton & Smith Nut Tree Nursery, Millerton, N. Y. Nut is oblong and pointed.

Weng 1 is another introduction by Benton & Smith Nut Tree Nursery, Millerton, N. Y. From an open-pollinated seedling of the Crath group, originated in Harrison Township, Montgomery County, Ohio, by Lewis Weng. Tree is hardy and has a round nut of Persian type. THE END.

Coming Next Month

- Concentrate Spraying in the East, Midwest, and West
- Plant Chemotherapy at Work for You
- Aphids Are Plant Vampires
- Progress in Insect Control
- 1953 Experiences with Fruit Diseases
- New 1954 Spray Compatibility Chart with Up-to-Date Listing of Brand Names
- Thinning Peaches with a Chemical Weed Killer
- Successful Spray-Thinning of Apples
- Annual Spring Frost Forecast

DETAIL PLANS



for

FRUIT STORAGE

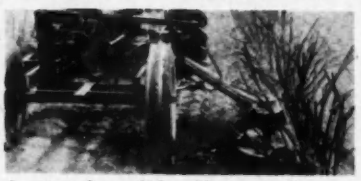
Basic construction plans for expansible fruit storage in units from 5,000 to 15,000 bushel capacity, including details on the installation of PALCO WOOL Insulation are available, with no obligation. Economy and compactness of arrangement plus proper application of PALCO WOOL low-temperature Insulation contributes to maximum operating efficiency. Write today for free plans and blueprints.

PALCO INSULATION WOOL — SAFERIZED

THE PACIFIC LUMBER CO.

100 Bush Street, San Francisco 4, Calif.
35 East Wacker Drive, Chicago 1, Ill.

AUTOMATIC ROTARY HOE



A rotary hoe which cultivates in the row. Designed for vineyards, blueberry planting and row crops such as raspberries, currants, gooseberries, brambles, etc. Operates automatically. A trigger actuates the hydraulic mechanism which pulls the cultivating head away and around the plants or posts. Eliminates hand hoeing.

Write for descriptive folder

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AMERICA'S FINEST

KATFISH BRAND

Rubber Bands, Aprons, Pudding Stirrers, Spray Paints, Kneeling Pads, Footrests, Gloves, Sponge Rubber, Belts, Hose

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FRUIT INDUSTRY LOSES A LEADER

AN outstanding horticultural career came to a tragic end in late November when Fred L. Overley, former horticulturist and superintendent of the Tree Fruit Experiment Station, Wenatchee, Wash., was drowned while on a hunting trip. He was 69 years of age.

Mr. Overley headed research work for the State College of Washington since 1927 and was the experiment station's first superintendent, until his retirement in 1951. He had remained active in research work, however, until the time of his death.

He was an authority on several phases of horticulture, including orchard rehabilitation, cover crop methods, soil fertility, and irrigation, and was credited with development of the culticutter and other modern orchard implements.

At the time of his death he was second vice-president of the Washington State Horticultural Association, of which he was a life member. He would have been its president in 1954 and 1955.

Mr. Overley went to Washington State College in 1923 as instructor in horticulture from Iowa, where he served as county agent and was on the resident staff of Iowa State College, Ames. He was honored by his alma mater, Iowa State, in 1952, in ceremonies designating him as a distinguished alumnus.

CHILD LABOR LAW

EMPLOYMENT of children under 16 years of age by fruit growers is prohibited during school hours by the Federal Fair Labor Standards Act.

When school is *not* in session, the federal law permits employment of children of any age in the production of agricultural products. Also, the employer must keep a record showing date of birth, home address, and local address of all youths under 19 when they are employed during hours school is in session.

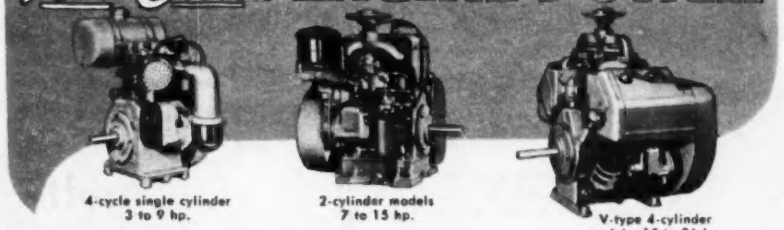
These are the steps every fruit grower should take to protect himself from unintentional violation of the law:

1) Learn the requirements of both state and federal laws.

2) Do not employ or permit children under 16 to work in or about the fruit growing area during school hours.

3) Make sure the youth is of employable age and keep a record of the date of birth.

Get More Work Done and Lower Your Operating Costs with WISCONSIN HEAVY-DUTY Air-Cooled ENGINE POWER



4-cycle single cylinder 3 to 9 hp. 2-cylinder models 7 to 15 hp. V-type 4-cylinder models, 15 to 36 hp.

POWER TO FIT YOUR NEED...

Faced with high production costs and a tight market for fruit products, your best solution of this problem is to transfer more of the work-load to efficiently mechanized equipment. This should be done on a basis that will let you lower your operating costs and, at the same time, increase the productive capacity of your land and labor. Wisconsin Engines can help you do this.

Low hanging branches are no obstacle for this Wisconsin-powered sprayer. Builder is Besler Corp., Emeryville, California.

POWER TO FIT THE MACHINE

The farm equipment manufacturer can select exactly the right size Wisconsin Air-Cooled Engines to fit his machines, without power waste, because these engines come in a full range of sizes, from 3 to 36 hp., to fit almost any orchard equipment you can mention. And because Wisconsin Engines are very compact and light in weight, they fit the machine without the need for costly re-designing of the equipment itself.

This sprayer is built by A. B. Farquhar Co., Div. of Oliver Corporation, York, Pa., and, of course, power is provided by a Wisconsin Engine.

POWER TO FIT THE JOB

No matter what kind of work your mechanized equipment is to do, or how tough it may be, a Wisconsin Air-Cooled Engine fits the job. Every Wisconsin Engine, from the smallest to the largest, is of heavy-duty design and construction all the way through. For example, the drop-forged crankshaft runs on tapered roller bearings at BOTH ends — your best protection against bearing failure and expensive layups.

Bird's eye view of Wisconsin-powered sprayer. The Hardie Mfg. Co., Hudson, Mich., is the builder.

POWER TO FIT THE WEATHER

Because Wisconsin Engines are AIR-COOLED, you never have a cooling problem. Nothing to freeze in cold weather; no overheating in hot weather. The rotary type high tension outside Magneto has an Impulse Coupling for fast starts in any weather and is weather-sealed against dust and moisture.

When you buy new orchard equipment, be sure to specify "WISCONSIN ENGINE POWER". Write for free copy of Bulletin No. S-154 with condensed engine specifications.

WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

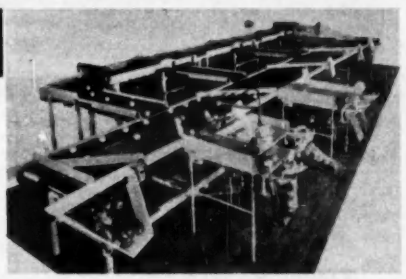
MILWAUKEE 46, WISCONSIN

TRESCOTT

Modern Apple Machine with Two-Way Packing Belt, Two Twin Autobaggers.

Capacity 50 to 600 bu. per hour.

Write today for complete information.



THE TRESCOTT CO., INC., Dept. A, Fairport, New York

SAVE 70% OF HANDLING COSTS

LET GRAVITY DO THE WORK

- FASTER
- LESS CONFUSION
- LESS LABOR

More Profit

Metzgar Conveyors at Coloma Fruit Exchange, Coloma, Mich. show how straight lines used with "Flex-A-Y" Switches simplify spotting of different varieties for storage, or for gathering mixed loads for shipment. Note the orderly appearance.

Large or small, you cannot afford to waste profits on old-fashioned manual handling.

Metzgar Gravity Conveyors—wheel or roller—come in standard sections (5' or 10' lengths 11½"; 15" and 18" widths) that make up with standard curves and switches to any routing system you require.

Tripod stands and Portable Line Bases are height-adjustable to reverse the direction of gravity travel so the same line can be used in either direction.

Ask our experienced engineers to suggest the Metzgar equipment that will speed handling of the crop, relieve your congestion and show you a greatly increased profit. There's no obligation.

DESIRABLE TERRITORY IS AVAILABLE TO WELL RATED DEALERS AND MANUFACTURERS AGENTS SPECIALIZING IN SERVING GROWERS • PACKERS AND PRODUCE STORAGE

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LIFT OR LOWER — FLOOR TO FLOOR — WITH A STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. AFG-14

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Standard GRAVITY & POWER CONVEYORS

The

Complete Corkboard INSULATION SERVICE

From engineering design to complete erection, United Cork Companies offers complete service on B.B. (Block-Baked) Corkboard through its chain of branch offices from coast to coast.

Each installation of United Cork Companies' B.B. Corkboard is *specifically* planned for the requirements of the individual fruit storage area. And each installation is followed up by United Cork Companies' engineers to assure full satisfaction to the fruit grower.

You are invited to discuss your low-temperature insulation requirements with us.

UNITED CORK COMPANIES

DEPARTMENT I-10

KEARNY, NEW JERSEY

BRANCH OFFICES IN PRINCIPAL CITIES

APPLES

(*Continued from page 13*)

sor had not made the strides he has already made.

Fresh Domestic Movement

The old axiom "A good start is half the race" is so true in this "apple game." Once the "fires of consumption" are burning freely it is much easier and cheaper to keep them going than to have to start the flame in December or January.

Actually, the very nature of the apple and of apple varieties would seem to force an orderly marketing procedure. This is not always the case (remember 1947 and 1950), and if a lackadaisical attitude is taken by both producers and distributors, it doesn't take long to get behind the eight ball even in a short crop year.

Considering what has taken place to date it would seem advisable that the industry stop resting on 1952's laurels and go to work. The amount of apples in storage on November 1, 1953, that were located by the IAA, i.e., 44,206,000 bushels as compared to 38,402,000 in 1952, indicates a need for sound, aggressive, and concerted merchandising NOW.

Under present market conditions it is difficult for the distributor to make his legitimate profit. When this situation prevails, the impetus to push apples at the wholesale level is lost.

Holdings Manageable

There is no need for fear or panic. The holdings are not excessive, they are manageable. However, they are out of proportion when the relatively short crop and heavy processor demand are considered. We have been a little lazy in our sales program. There is no need to speculate when a profit can be made by selling now.

It is interesting to note that the total crop produced in 1953 in New England, the Hudson Valley, Michigan, and Washington is estimated to be about 7 million bushels more than in 1952. The November 1, 1953, storage holdings in these areas show an increase of nearly 7 million over 1952. These areas have a large percentage of the storage facilities and usually store a greater per cent of their crop then do the areas that had light crops in 1953. Hence, the location of the crop and the location of the storages has registered.

The November 1, 1953, storage holdings were 44,206,000 bushels. In the past, the "apparent normal disappearance" during November is 4 to 5 million bushels. In some years the unreported "barn" holdings have a profound influence on the "apparent November movement," but hot weather in October and November, 1953, helped eliminate a greater portion of these

than usual. Considering this factor, together with the fine harvest weather and the relatively small tonnage of fruit in the orchards it is hoped that this year 6 million bushels will "disappear" in November.

We do not have a crystal ball. However, based on the November 1, 1953, storage holdings we may expect about 38.2 million to 40.2 million bushels in storage on December 1, 1953. This includes processor holdings (estimated at 1.5 million) and any apples that may be exported after that date.

On this basis there may be 10.2 to 10.7 pounds per capita for fresh consumption after December 1 as compared to 9.1 pounds last year. The industry usually experiences difficulty some time during the storage season if the per capita supply in storage on December 1 exceeds 11 to 11.5 pounds.

Export Possibilities

Trading is still on a limited basis. The Mutual Security Act may be of some aid. Everything is still in the "if" stage and we hesitate to say exports will exceed the million bushels exported in 1952. Overseas importers reportedly regard present prices "risky."

For the past two years the consuming public has been "apple hungry" at the start of the season. This is a favorable situation if used wisely. But it may create the false impression that the public is ready to buy anything at any price. This may easily create a situation whereby the opening prices are too high to get "fires of consumption" really burning at a most critical period in our marketing season. Or, this early "hunger" may cause the shipper to raise the price too rapidly and thus deter movement in late October and November after a healthy start. A need for weekly movement data from September to November is apparent and work is being done, but there is not sufficient base to reliably judge the available data.

Quality of the Crop

For the most part color and finish of the fruit are good. The use of milder fungicides in the East and Midwest has been definitely beneficial. In the Northwest, quality is generally excellent and the per cent of C-grade and culls is far below normal. Size of the fruit is below average, especially on Winesap.

The heat wave in early September in the East and Midwest delayed harvest and hurt color on those varieties nearest harvest. The majority of the fruit was kept on the trees by hormone sprays and the color improved rapidly with the cooler weather. The heat advanced the maturity of the fruit, especially McIntosh, and an above normal per cent of the fruit in storage will bear careful watching. THE END

KILL SCALE
red mite, aphis, etc.

Kill overwintering insects *before* they damage your trees, shrubs and ornamentals. Spray before new growth starts with Scalecide—the *safest* and most *effective* dormant spray. Now in its *fiftieth* year as "the old reliable". 1 qt., $1.15; 1 gal., $2.75; 5 gal., $10.75*

When your fruit trees leaf out apply Pratt's Fruit Tree Spray—a complete spray in one package. Controls chewing insects and fungous diseases. 1 lb., 85c; 3 lbs., $1.50.*

Buy at your seed, hardware or garden supply store

*Slightly higher West of Mississippi River

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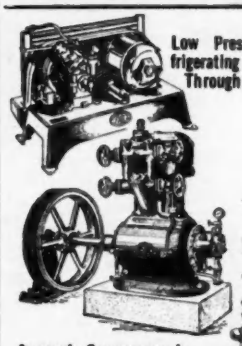
There's a Pratt Spray for every need.



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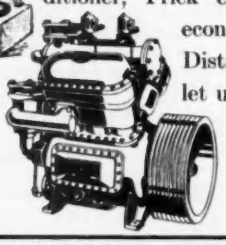

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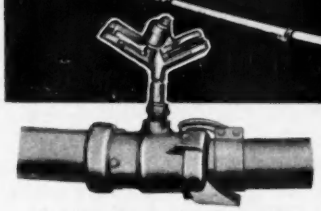

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in John Dicus orchard, Tonasket, Washington, as shown above. There were no pollinators in this orchard and no previous crop from these 7-year old trees. $200 spent for pollinating earned $3,000. Fruit growers in the United States and Canada are getting outstanding results from a number of methods of application: HAND BRUSH, POLE DUSTER & BEEHIVE INSERT. An Idaho grower gets results with the NEW HAND DUSTER idea on cherries.

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Apply seed for cover crop - - - Write for descriptive folder

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CITRUS

(*Continued from page 15*)

ings, especially in lemons, in the last two years.

Less Acreage, More Oranges

Statistics show that in 1938–39, the immediate pre-World War II year and before large-scale subdivision, the California acreage planted to navel oranges totaled 90,400 acres. By 1952–53 season, there were only 74,700 acres; but production of navels was 17 million boxes as against 12.9 million the previous season, 15.3 million two seasons ago, and 16.2 million in 1949–50.

The interesting thing about the 1952–53 production of navels was that 92 per cent of the harvest was shipped as fresh fruit, and that is the highest percentage on record for post-World War II years.

Acreage devoted to valencias totaled 139,900 in 1938–39 and was 127,800 acres in 1952–53. Production for valencias at 29 million boxes in 1952–53 was, with the exception of one crop, the largest since 1946–47, and 66 per cent of the crop was shipped as fresh fruit, even though small sizes lowered the fresh percentage.

Cartoned Rather Than Canned

"It is our intention to consistently promote the use of fresh oranges for eating and juicing and to attempt to market the largest possible percentage of our fruit in fresh form. We are, of course, extremely pleased that such large and apparently increasing percentages of our crop move to market in boxes and cartons rather than in cans.

The acreage declines in both navels and valencias are generally centered in Los Angeles County and, more recently, in rapidly expanding adjacent Orange County. These two counties constitute one of the most rapidly expanding areas in the world from the standpoint of new residential and industrial development. With people and industry moving in, something has to give, so subdividers and factory builders eagerly compete for land, and they sing a luring song to all but the owners of the very best farm land.

Not only has citrus acreage moved out of production in this manner, but truck farming lands, vineyards, walnut groves, and all the many others that could be named have shown acreage declines. Many farmers in these expanding areas today are merely awaiting their groves or farm land to catch the eye of the subdividers.

Combined citrus acreage in California in the 1938–39 season (and this includes lemon acreage) totaled 280,700 acres. In 1952–53, it totaled 257,500 acres, a decline of 23,200 acres during that period. Total navel and valencia orange and lemon production in 1938–39 was

52.9 million boxes. During the 1952-53 season, this combined production was 58 million boxes. So despite this approximate 8 per cent drop in land utilized for citrus, production has held up.

Costs of production have increased substantially in the past decade. Good orange groves in California sell for from $2,500 to $4,000 an acre, but they were selling at that price 10 years ago, and there still are enough people who want to "get into" citrus that the real estate dealers specializing in groves can make a fine living.

Frozen Lemonade Sales Soar

We are very optimistic about the future for the lemon industry. Frozen concentrate for lemonade has been one of the fastest growing products in the frozen food business with sales jumping from 200,000 cases annually four years ago when the product was introduced, to about 7 million in 1953. This great increase in sales seemingly hasn't hurt our fresh lemon business. In 1953, for the first time on record, the entire lemonade crop was utilized either as fresh fruit or in juice products. No citric acid was made from lemons.

Good Groves Are Permanent

While marginal acreage will go out of production, especially when the land is sought at attractive prices for subdivision and industrial expansion, there still are many groves in California being farmed by the second generation which could not be purchased at any reasonable price. Returns to the owners of the better California groves are probably as favorable as in any farming enterprise. We know that these groves are not going to be destroyed for a good many years, and the grower with good land and good quality fruit has always received an excellent return on his investment. That situation is likely to continue in the foreseeable future.

Sunkist Growers currently count more than 12,500 citrus growers as members of 170 packinghouse associations which ship their fresh fruit through 23 district exchanges and their products fruit to two processing plants, the Exchange Orange Products Company in Ontario, Calif., and the Exchange Lemon Products Company in Corona, Calif. THE END

A reader writes, "Nowhere other than in AMERICAN FRUIT GROWER can I find advertised such a wonderful variety of equipment and products that the grower needs." Read the advertisements and remember advertisers will be glad to send you catalogs, specifications, and prices. Be sure to say you saw it in AMERICAN FRUIT GROWER.

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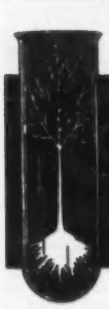

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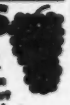

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The cost of the cell cartons is 42 cents a box (which packs five-eighths of a bushel). This is 36 cents higher than what it would cost to use a bushel basket.

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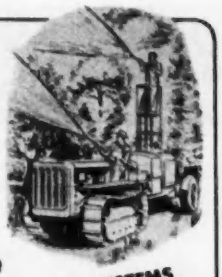

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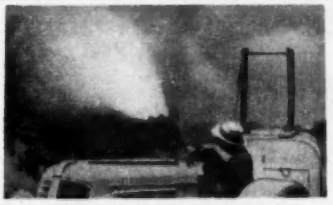

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IRON AGE SPRAYER. 35 G.P.M. 500 GAL. STEEL tank. Wisconsin VP4 motor, starter and generator. 13.50 x 24 tires. Overhauled, A-1 condition. Priced right, LOWELL MUNROE, Williamsburg, Mich.

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CONCENTRATE SPRAY RIG, ENGINE DRIVEN hardie 35, 400-Cal. Tank, 25 HP Aqua-Jet Blower used one season at 5X and 4X. Good condition guaranteed. Want to buy used Hale Sprayer. JAMES DEAN, Rt. 2, Geneva, Ohio.

50 GAL. TRAILER TYPE, HARDIE SPRAYER, 500 gal. tank. Fully equipped, in perfect condition. A bargain. WELDAY'S ORCHARD, Smithfield, Ohio.

FOR SALE—ORCHARDS

FARM 221 ACRES, 75 ACRES BEST VARIETIES young bearing peach and apple trees; high elevation, good air drainage, modern fine homestead; 3 other sets of buildings, main highway. BENJAMIN F. PRIMMER, Route 1, Logan, Ohio.

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FOREMAN TO OPERATE 100 ACRES APPLES. HUNT ORCHARDS, 216 Edmond, St. Joseph, Missouri.

MAN CAPABLE OF HANDLING MEN AND MAchinery to work on fruit farm. Modern six-room duplex. Good opportunity for right man. W. L. ALLEN, Geneva, Ohio, R. 3.

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"HOW TO BREAK AND TRAIN HORSES"—A BOOK every farmer and horseman should have. It is free; no obligation. Simply address BEERY SCHOOL OF HORSEMANSHIP, Dept. 1381, Pleasant Hill, Ohio.

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NORTHERN GROWN EVERGREENS FOR SALE. Christmas trees, Wind-Breaks, etc. We grow finest varieties at lower prices. Free Circular tells how you can make good profits from waste land. VAN'S PINES, Box 12, West Olive, Michigan.

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BIG MONEY WEAVING RUGS—SEND 10c FOR our catalog, sample card, and low prices on carpet warps, rug fillers, looms, parts, inexpensive beam counter. If you have a loom, advise make and width please. OR. RUG COMPANY, Dept. X330, Lima, Ohio.

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MAKE MONEY ADDRESSING ENVELOPES. OUR instructions reveal how. PAUL GLENWAY, 5713 Euclid, Cleveland 3, Ohio.

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WANTED: UNIMPROVED FARM CHEAP, HERBERT AYER, R. 1, Newtown, Ohio.

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From where I sit ... *by* Joe Marsh

A Case of "Moostaken" Identity

Slim Smith never had a chance to use his moose call until he took a trip north last month. Visited him yesterday to see what he'd bagged.

"First day out," he told me, "I picked up a trail. I sounded the call and settled down to wait. Then *I* heard a moose call. Sure enough, something came crashing through the brush. But it was another guy with his moose call. Boy, did I get my finger off the trigger in a hurry!

"My last day there I picked up another trail. This time I got me a real moose. But you can bet one thing—I took a good look before I did any shooting!"

From where I sit, we could all learn a little from Slim's experience. Most of us are guilty sometime or other of being too quick on the trigger. Like the fellow who would deny me the right to an occasional glass of beer with my dinner. I say that kind of "aim" is way off!

Joe Marsh

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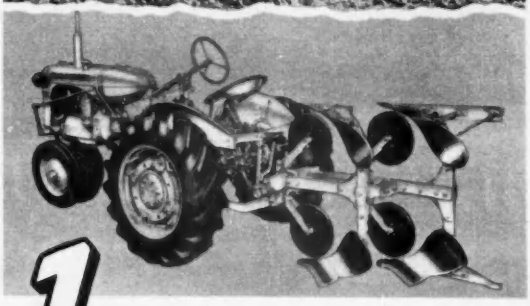
Brooks Company, 303-A State St., Marshall, Mich.

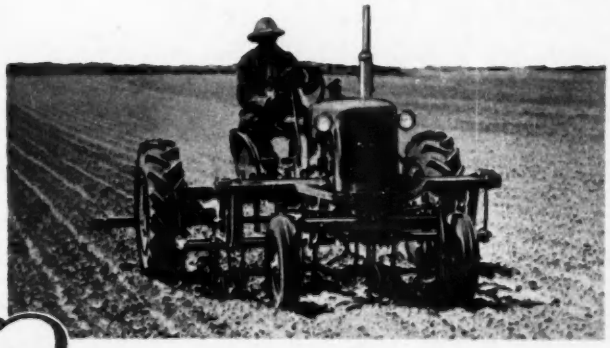


Two-Tractor Ability

IN THE ONE-TRACTOR ORCHARD

You can now increase the earning power of your one-tractor operation with new tractor ability. With the two-plow Allis-Chalmers CA you can disc-in heavy cover crop. Subsoil and chisel. Renovate deeply with the spring-tooth harrow. Power a husky sprayer. You'll step into a new range of fruit-growing capacity without increasing your costs. It's like owning two tractors —

1 Here's *real* discing — seven sturdy feet of it! Subsoiling as deep as 18 inches, too, comes easy to the CA. And you can plow 8 or 10 inches deep, whenever you like. This is the heavy-duty ability you gain with hydraulic TRACTION BOOSTER. (Lower photo shows the CA's Two-Way, Two-Bottom Spinner-Type Plow — another measure of new two-plow tractor *ability!)*



2 Here's two-plow tractor cultivating; matched to the row spacing and to the tenderness of the crop. Planting, too, unsurpassed in accuracy and speed by any size tractor. POWER-SHIFT WHEELS give you the same effect as owning a second tractor. You can switch — quickly — from narrow-row to wide-row crops.

On spraying machines, CA TWO-CLUTCH POWER CONTROL releases extra power to the power take-off for applying heavy spray when you want it.

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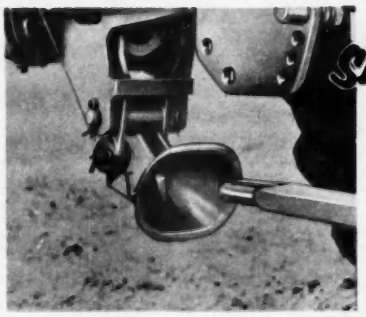
Ask your Allis-Chalmers dealer to demonstrate Two-Tractor Ability at one low, two-plow tractor price.

SNAP-COUPLER is an Allis-Chalmers trademark.



plus SNAP-COUPLER

You simply, (1) back the CA to engage the wide-funnel *SNAP-COUPLER:* (2) close the two lift-arm latches; DRIVE AWAY. It's the handiest quick-hitch for mounted implements ever devised! Available for all CA and WD Tractors.

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FOR INSECT CONTROL

Genitox* Spray Powder (50 & 75% DDT)
Genithion P-15 Spray Powder (15% Parathion)
Genithion PEM 250 Emulsifiable Concentrate (25% Parathion)
Parathion EM-4 Emulsifiable Concentrate (4 lbs. per gal.)
Lindane 75% and 25% Spray Powder
Lead Arsenate, Astringent, Standard, Basic
Genite† 883 (p-chlorophenyl p-chlorobenzene sulfonate)
Aramite Wettable Powder and Emulsifiable Concentrate
50% TDE Spray Powder
25% TDE Emulsifiable Concentrate
Nicotine Sulfate, 40%
"400" Spray (4% Rotenone)
"100" Dust (1% Rotenone)
"75" Dust (¾% Rotenone)
Dieldrin Spray (Emulsifiable Concentrate)—1½ pounds per gallon
TEPP 20% and 40% Liquid Concentrates
Malathion, Emulsifiable Concentrate and Spray Powder

DISEASE CONTROL

"530" Spraycop* (53% Metallic Copper)
"340" Spraycop (34% Metallic Copper with spreader-sticker)
Bordeaux Mixture
Copper Sulfate (Crystal and Monohydrate)
Forbam Spray Powder
Ziram Spray Powder
"Puratized" Agricultural Spray (Organic Mercury)
"Puratized" Apple Spray (Organic Mercury)
Spergon and Phygon Seed Protectant and Spray Powder
Dritomic* Sulfur
Micro-Dritomic* Sulfur
Lime Sulfur Solution

WEED AND BRUSH CONTROL

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MCP Amine Weed Killer
Sodium Arsenite
2,4-D Amine and Ester Weed Killers
Potassium Cyanate
TCA Sodium Salt, Powder and Liquid Concentrate

ORCHARD BRAND SPRAY MATERIALS

OTHER GROWER AIDS

Stafast* (for thinning apples)
Stafast and Sta-set† Pre-Harvest Sprays
Filmfast* Spreader-Sticker
Genifilm "L" Liquid Spreader-Sticker

*Reg. U.S. Pat. Off.
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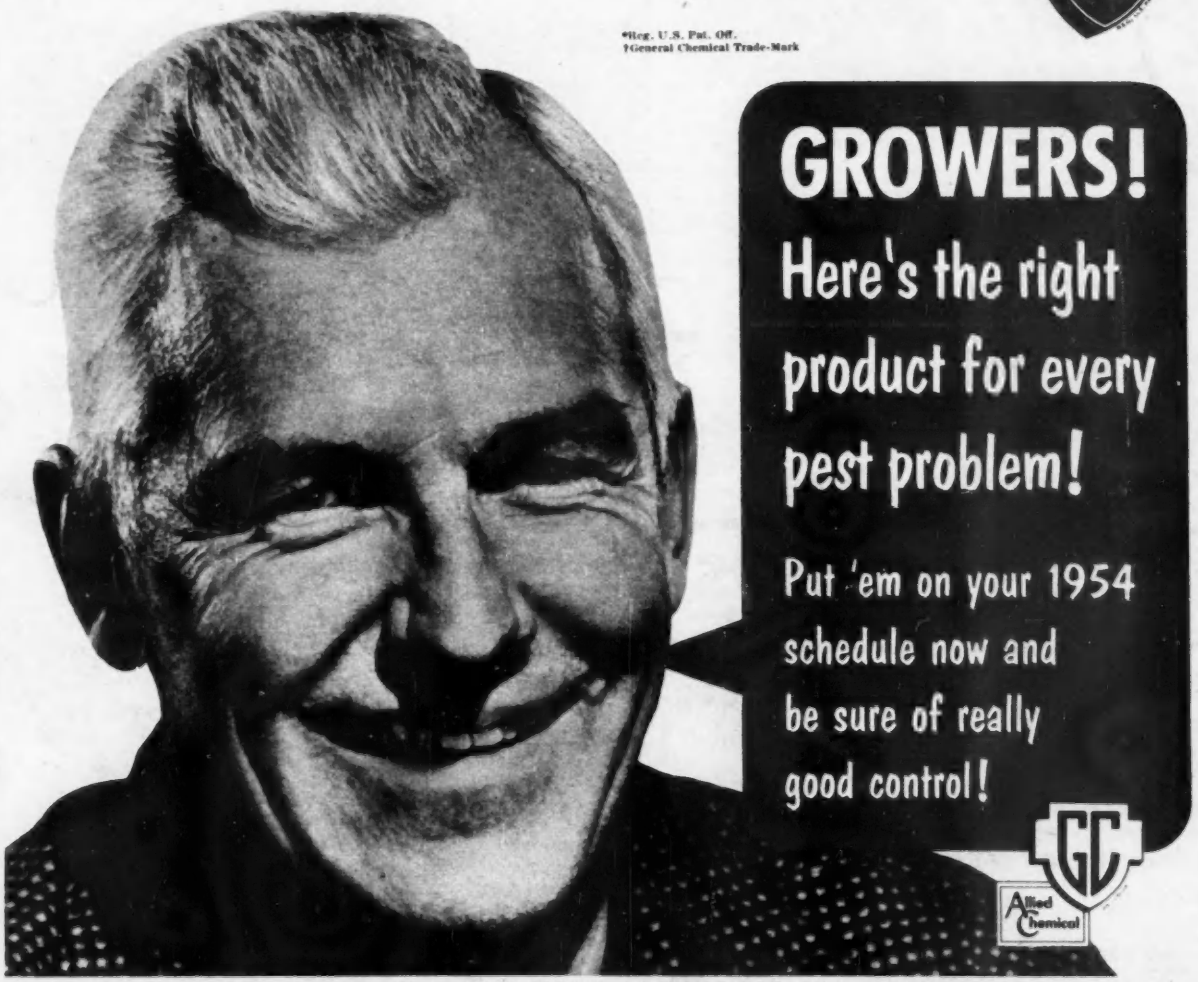
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